DOCUMENT RESUME

ED 243 458 IR 011 073

AUTHOR Willen, Birgitta
TITLE Distance Education at Swedish Universities. An Evaluation of the Experimental Programme and a Follow-up Study. Uppsala Studies in Education 16.
INSTITUTION Uppsala Univ. (Sweden). Dept. of Education.
REPORT NO ISBN-91-554-1228-9
PUB DATE 81
NOTE 296p.; Revised edition of Ph.D. Dissertation, Uppsala University, Sweden. For related documents, see ED 240 996, ED 242 284, and IR 011 056.
PUB TYPE Dissertations/Theses - Doctoral Dissertations (041) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC12 Plus Postage.
DESCRIPTORS *Academic Achievement; *College Students; Correspondence Study; *Delivery Systems; Demonstration Programs; *Distance Education; Dropouts; Foreign Countries; Higher Education; Program Evaluation; Student Attitudes; Teacher Attitudes; *Universities
IDENTIFIERS *Sweden

ABSTRACT

An evaluation of experimental distance courses offered by Swedish universities beginning in the academic year 1974-75, this study gathered data through questionnaires and interviews with teachers and administrators responsible for the courses (N=120), as well as questionnaires distributed to students at the beginning of the first term and the end of the second term. These provided background data and information on the students' work situations, study motives, planned and actual amount of time for study, study breaks and other problems, use of special teaching aids, and attitudes toward different components of the teaching program. Main findings include a very high degree of satisfaction among the participants (N=797) and relatively high pass rates, even though the majority of the participants worked full time while they were taking courses. A follow-up study of the students (N=571), which was conducted five years after they started, indicates that the work situation is very stable for men, though women change work frequently; interest in continuing education remains very high, with 80% of the group involved in some other kind of studies during the 5-year period; and the group is very flexible in their choice of educational organization. A discussion of the decentralized Swedish model in relation to other systems and the international debate on distance education models concludes the report. A 17-page reference list including a number of sources in English as well as Swedish, data collection instruments, and a list of related reports are included. (Author/LMM)

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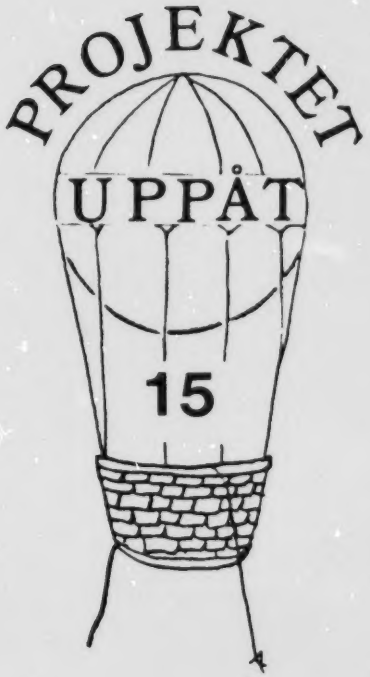

Distance Education at Swedish Universities

An Evaluation of the Experimental Programme and a Follow-up Study

Birgitta Willén

Uppsala 1981

Distributor:
Almqvist & Wiksell International
Stockholm

IR011073

Doctoral dissertation at Uppsala university 1981

Abstract

Willén, B. 1981: *Distance Education at Swedish universities.* An evaluation of the experimental programme and a follow-up study. Acta Univ. Ups. *Uppsala Studies in Education* 16. 301 pp. ISBN 91-554-1228-9. ISSN 0347-1314.

The report presents an evaluation of the experiments with distance courses at Swedish universities. Distance study programmes are the latest link in the Swedish policy of broadening access to higher education. All distance courses are arranged by the ordinary university departments. The evaluation study has made use of different kinds of information. Interviews have been held with responsible teachers and administrators who also have answered questionnaires (N=120) about planning, administration and teaching. A questionnaire was distributed to the students at the beginning of the first term and another questionnaire was sent at the end of the second term. These covered background data, work situation, study motives, planned and actual amount of time for studies, study breaks and other problems, use of special teaching aids and attitudes toward different components in the teaching programme. Main findings include a very high degree of satisfaction among the participants (N=797) and relatively high pass rates. Yet, the majority of the participants have kept a fulltime job besides their studies. The over-all conclusion are that the decentralized model seems to have functioned very well. The report also presents a follow-up study of the distance-students (N=571) five years after they started. A questionnaire was distributed to study the students' attitude to distance-studies, the work-situation of the students and the educational situation during the five year period. The work-situation is very stable for men, but the women change work or work-situation very frequently. The interest for continued education seems to be very high and 80 per cent of the group have been involved in some other kind of studies during the five year period. The results show that the group is very flexible in their choice of educational organization. In the concluding section the decentralized Swedish model is discussed in relation to other systems and the international debate. Since the feed-back problems seem to be one of the crucial factor, the decentralized model has several merits at least under the circumstances given in the Swedish context.

Key words: evaluation, distance education, higher education, universities.

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Revised, printed edition of a mimeographed doctoral dissertation presented to the Faculty of Social Sciences, Uppsala University, May 23, 1981.

ISBN 91–554–1228–9
ISSN 0347–1314

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Printed in Sweden
Borgströms tryckeri, Motala 1981

To my daughters
Kristin and Susanne

Contents

Acknowledgements 11
Abbreviations 12

Part I. Administrative aspects of distance eudcation

1. *The experimental activities and higher education in Sweden* 15
   1.1. Background 15
   1.2. The basic ideas behind distance education 19
   1.3. The scope and general organization of distance education 20
   1.4. The scope and organization of the evaluation programme 22
   1.5. A follow-up investigation five years after the commencement of studies 26
   1.6. Disposition of the report 27
   1.7. Previous investigations 27

2. *Organization of the experimental activity with distance education* 36
   2.1. Distance courses available in the academic year 1974–75 36
   2.2. Budgetary framework 38
   2.3. Planning 40
   2.4. Distance over-bridging aids 41
   2.5. Meetings at the university 43
   2.6. Number of teachers per course 44
   2.7. Examination 45
   2.8. Summary 45

3. *Information and recruitment problems* 47
   3.1. Information to the general public about distance education 47
   3.2. Entrance regulations and their effects 49
   3.3. Geographical recruitment. Distance from home to the university town for inquirers, applicants and distance students 52
   3.4. Distance courses given simultaneously at more than one university 54
   3.5. Distance education and other external university education in the northern educational region 58
      3.5.1. Relation between area and recruitment to distance education 62
      3.5.2. Recuritment of teachers in relation to information and the available courses 63
   3.6. Inquirers, applicants and students accepted for distance studies at Umeå university 64
      3.6.1. A comparison between inquirers, applicants and distance students at Umeå university 64
      3.6.2. Why have inquirers shown interest in distance education and why have they not applied? 65
      3.6.3. Plans for future distance studies 66
   3.7. Summary 68

Part II. Participants' view on distance education

4. *The organization of the investigation of participants* 77
   4.1. The investigated groups 77
   4.2. Questionnaires and response frequency 78
   4.3. Composition of the panel group: sex, age and educational background . 80

5. *The students' goals and study alternatives* 83
   5.1. Motives for distance studies 83
   5.2. Study goals and study determination 87
   5.3. The study alternatives if distance education had not existed 90

6. *Background, frame situation and study effort* 93
   6.1. Social background 93
   6.2. Occupational situation 94
   6.3. Other aspects of the frame situation 97
   6.4. The best way to organize meetings at the university 99
   6.5. Tne actual amount of time invested in studies in relation to earlier plans 100

7. *Study behaviour and attitudes* 108
   7.1. General attitudes to distance education 108
   7.2. Telephone contacts with teachers and other contacts during distance studies 110
   7.3. Other distance-overbridging aids 114
   7.4. The role of the teacher 121
   7.5. Answers to an open question about the meaning of distance education for participants 125
      7.5.1. Main results 125
      7.5.2. Exemplification of answers 126

8. *Study results* 130
   8.1. Introduction 130
   8.2. The study results of distance education for the total group and the panel group 131
   8.3. Study results in relation to sex and educational background 134

Part III. Teachers' experiences of distance education

9. *Teachers' attitudes to distance education* 139
   9.1. Investigated group and method 139
   9.2. Teachers' attitudes to the information given to the public about the distance education 142
   9.3. The teachers' attitudes to distance over-bridging aids 145
   9.4. Teachers' contacts with the students 150
   9.5. Teachers' assignments 152
   9.6. Advantages and disadvantages of distance education – teachers' opinions 159
   9.7. Teachers' views on the future of distance education 162
   9.8. Summary 166

Part IV. What happens to the university's distance students? A follow-up investigation after five years

10. *Introduction to the follow-up investigation and organization of the investigation* 171
10.1. Introduction to the follow-up investigation 171
10.2. The investigated group 172
10.3. Response frequency 172
10.4. Non-response analysis 173
10.5. Sub-groups 174

11. *Distance education in retrospect—five years later* 178
11.1. Study results 178
11.2. Concluding discussions of the study results 181
11.3. Has distance education given rise to any problems? 184
11.4. Is distance education to be recommended? 186
11.5. Interest for studies 188
11.6. Answers to an open question about what distance education has meant to the students 191
11.6.1. Increased self-esteem as a result of studies 196

12. *Occupational situation before and five years after the distance course* 203

13. *The educational situation after the distance course* 209
13.1. Educational organization—a short presentation 209
13.2. Participation in studies during a five-year period 212
13.2.1. Higher education 214
13.2.2. Other forms of education 220

Part V. Summary and Discussion

14. *Summary of main results* 227
14.1. Problem area 227
14.2. Information and recruitment problems (Chapter 3) 230
14.3. Participants views on distance education (Chapters 4—8) 232
14.3.1. Background (Chapter 4) 232
14.3.2. Motive for studying and study goals (Chapter 5) 232
14.3.3. Frame factors and study effort (Chapter 6) 233
14.3.4. The study process and study results (Chapters 7 and 8) 234
14.4. Teachers' experiences of distance education (Chapter 9) 236
14.5. The follow-up investigation five years after the commencement of studies (Chapters 10—13) 237
14.5.1. Attitude to distance studies (Chapter 11) 238
14.5.2. Occupational situation during a five-year period (Chapter 12) 239
14.5.3. Educational situation during a five-year period (Chapter 13) 240

15. *Concluding discussion* 243

15.1. Definition of distance 243
15.2. Target groups for distance 247
15.3. Media and organization 251

Appendix 262

References 282

Acknowledgements

This study was commenced at the Department of educational development, Umeå University. In 1977 the project was included as a part of the Uppsala project on recurrent education at the Department of Education, Uppsala University. The project has been financed by the National Board of Universities and Colleges (NBUC). During the different phases of my studies a number of people have been involved in my work. I want to express my gratitude to all those who have helped and supported me in different ways.

First of all I want to thank Urban Dahllöf, who has motivated and inspired me during this work. It has been a real pleasure to work with him. His never ceasing interest and readyness to open and frank discussions have been extremely important for me.

My research colleagues Jan-Edolf Byström, Britt Hallerdt, Jan Löfgren, Magnus Söderström and Ola Westin in Uppsala, John Bååth in Lund, as well as Helmer Larsson at NBUC, generously contributed to discussions of problems and analysis.

Helena Hörnberg, Gösta Lundin and Karin Åkerström, Umeå and Monalisa Karlfeldt, Löddeköpinge, assisted me in the collection of data. The final manuscript was diligently and patiently typed by Ingrid Stenborg, who also typed preliminary versions of the book together with Berit Fryklund and Hilkka Falk.

Patricia Johannesson has translated the book into English and made many suggestions of great value concerning both the content and style.

Roland Tengling, my beloved husband, helped in interviewing the distance students. He has also read the major part of the manuscript and suggested corrections and changes.

Lars-Owe Dahlgren, the opponent at the public examination, provided me with an excellent opportunity to discuss my research.

Thanks are also due to the teachers and students in the distance courses, who so generously answered questionnaires and took part in interviews.

Finally my warmest thanks to my parents, Gertrud and Hans Willén, who have supported me in so many ways. Without their support it would have been difficult to complete this work.

Hofterup, July 1981

Birgitta Willén

Abbreviations

Only specific abbreviations are listed here. They are explained in the text when they are used for the first time.

Abbreviation	*Explanation*
A	Course level: First semester's study of a subject
A	Arts subjects
Ad	Administrative subjects within the Social Sciences
AMS	Arbetsmarknadsstyrelsen = The National Labour Market Board
B	Course level: Second semester's study of a subject
BA	Bachelor of Arts
C	Course level: Third semester's study of a subject
Dnr	Diarienummer = Registration number
DU	Decentraliserad universitetsundervisning = Decentralized university course
E	Economic subjects
F	Female students
FD	Filosofie doktor = Doctor of Philosophy
L	Language subjects
M	Male students
M	Statistical mean
N	Natural Sciences
OU	Open University
P	The duration and extent of university courses is expressed by a system of points. One term of full-time studies, corresponds to twenty points
Prop	Proposition = Governmental bill
PUKAS	(Nick-name of) the 1969 university bill signed by Olof Palme (then Minister of Education). See also UKAS.
S	Social Science
SCB	Statistiska centralbyrån = National Central Bureau of Statistics
SDU	Systematiserad decentraliserad universitetsundervisning = Decentralized systematized university programs
SFS	Svensk Författningssamling = The Swedish Code of Statutes
SOU	Statens Offentliga Utredningar = Official Report Series for Governmental Planning Committees
TRU	(Kommittén för) television och radio inom utbildningsväsendet = The Committee for Television and Radio Broadcasting in Education
U68	1968 års utbildningsutredning = The 1968 Governmental Education Committee
UbU	Utbildningsutskottet = Parliamentary Standing Committee on Education
UC	Universitetscirklar = University study circles
UFB	Utbildningsväsendets författningsbok = Statute Book for Education
UHÄ	Universitets- och högskoleämbetet = National Board of Universities and Colleges (From October 1976)
UKAS	Universitetskanslersämbetets arbetsgrupp för fasta studiegångar a m = Working party of the Office of the Chancellor of the Universities for fixed study lines
UKÄ	Universitetskanslersämbetet = Office of the Chancellor of the Universities (Up to October 1976)

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PART I
Administrative aspects of distance education

1. The experimental activities and higher education in Sweden

1.1. Background

Work on the reform of higher education in Sweden began in the 1960's as part of a radical reorganization of the entire educational system. The way was paved by an extensive and fundamental reform of comprehensive and secondary schooling (Dahllöf 1971, Richardson 1977). Because of the reform of higher education, it is difficult to visualize clearly the situation of the universities during the last decade. Changes in the organization of higher education were constantly proposed by the appointed committees (Anderson 1974, Dahllöf 1977).

In recent years, one of the official aims has been to increase the accessibility of higher education. This includes providing adults, who work full-time and live away from university towns, with opportunities for recurrent education (U68 1969a, b, 1970a, b, c, UKÄ 1974). Distance teaching and various forms of decentralized education as well as part-time courses can be seen as means to this end. Thus, it would seem that this new adult student category will continue to supply a considerable stream of students to higher education in the years to come (SOU 1972:23).

This thesis constitutes one of a series of reports on experimental activities with distance teaching in the Swedish higher education system. The experimental activities were initiated by the 1968 University Planning Committee (U68a) and span over a period of five years from 1973.

Distance education implies a pedagogical method where oral teaching is limited and concentrated to a few intensive periods spread out over a whole term or academic year. In between these periods, the student studies on his own at home, but has the possibility to consult his tutors at the university by telephone or by letter (Larsson 1975a, b). The method is, thus, a further development of correspondence education.

Distance education originated from the proposal of U68 (1969a) to initiate three projects, namely:

I. Systematic decentralized university education
II. A combination of self-tuition material and oral instruction ("distance education")
III. A combination of study circle, self tuition material and videotape.

Systematic decentralized university education began in the northern educational region in the academic year 1970–71. The subjects taught and the methods by which they are taught, were in accordance with university tradition. Teaching was concentrated to the day-time and studies were intended to be full-time (Franke-Wikberg, Johansson & Råberg 1972, Franke-Wikberg & Johansson 1975).

The third project, which concerned the combination of study circle, self-tuition material and video-tape started in the academic year 1972–73 and was localized to the central and southern regions of Sweden. Project III is based on cooperation between the municipal authorities, the free educational associations and the university. The method of instruction combined study circles in the students' home towns, with intensive courses where students worked together with teachers from the university for two weekends each term. Adults with little more than basic schooling were the target group for these courses (André 1973, 1975).

A contributing factor to the changed rôle of the university during the 1970's was the marked increase in the number of evening classes (UKÄ 1974b). Evening classes provide part-time education and are primarily intended for new student categories such as the fully employed. In recent years, roughly half of those enrolled in the Faculty of Arts and Sciences have been part-time students.

New entrance requirements for the university have been gradually introduced (Kim 1978, Kim & Simon 1978). This allows adults over the age of 25 who have been employed for at least 5 years, to study certain subjects at the university, even though they do not fulfil the formal requirements (SFS 1969:68). This regulation was changed on July 1, 1977 so that only 4 years employment were needed to qualify for entrance (SFS 1976:23).

At one point during the period of this investigation, the overall aims of education in the Faculty of Arts and Sciences were expressed in the following words:

"Basic training in the Faculty of Arts and Sciences has a scientific foundation and, guided by the needs of students and society, aims at providing students with knowledge and skills as well as the ability to think critically, which is a necessary condition for future professional work or continued education" (UFB 1970/71 part 3, p 163).

All university education, including distance education, was guided by the above aims.

Higher education in Sweden is divided into undergraduate studies and postgraduate studies and research. At the undergraduate level students can choose between general study programmes and separate courses. On succesful completion of a general study programme, which usually has a vocational basis, a degree or certificate is awarded. Separate courses are mostly single subject studies, whose purpose is either to further training or general education.

The duration and extent of these courses of study is expressed by a system of points. One term of full-time studies, corresponds to twenty points, which means that one week of full-time studies with lectures, assignments (practical work, exer-

cises), and independent study usually gives one point. The courses of study are marked A–D, A representing the first term of study in a subject (0–20 points), B the second term of study (20–40 points), and so on. Each course consists of several different parts.

The academic year in Sweden is divided into two terms, the Autumn Term which starts around the end of August and the Spring Term which starts around January 20 and lasts until the beginning of June.

Everyone who applies for entrance to a general programme or a separate course must meet two kinds of requirements: general entrance requirements and special entrance requirements. The special entrance requirements are expressed in terms of Swedish secondary school courses. However, these qualifications do not guarantee admission. Since the reform in 1977 all courses of study have a limited number of places. This means that when there are more applicants than the number of available places, a selection must be made on the basis of the applicants qualifications. Both the applicants' school results and their experience of working life are taken into consideration (Kim 1978). The same conditions applied to distance courses even before 1977, as the number of places was limited on account of the experimental activities.

General study programmes offer training leading to a degree, and are organized in five sectors. Courses which are similar from the point of view of the labour market, come under the same sector i.e. sector for the teaching professions. One of the aims of the separate courses is to meet needs for further education and training. They are also intended to provide an opportunity to adapt courses of study to the needs of the individual. A separate course may be taken on its own or as part of a study programme and consists of between 5 and 20 points. Separate courses are not suitable for those who intend to study full-time for a degree.

Universities and colleges arrange a large number of separate courses. For instance, the University of Stockholm offers more than 600 such courses (University of Stockholm 1976). A large number of separate courses are simply fundamental courses in traditional university subjects.

Apart from the fee payable to the Students' Union, all studies at universities and colleges are free.

Since the reform of the university in 1977, the collective name for all education at university and college level is "higher education". Thus the new higher educational system includes not only traditional university studies, but also other post-secondary studies (SOU 1973:2, 1973:3, Bergendal 1976, Dahllöf 1977, Prop. 1975:9, 1976:59, Premfors & Östergren 1978).

The widest range of courses is offered at the six universities, situated in Gothenburg, Linköping, Lund, Stockholm, Umeå and Uppsala (see Figure 1.1). In addition, there are now more than 20 other towns with institutes of higher education.

The experimental activities with distance education evaluated here, took place before the 1977 Reform of Higher Education. They were part of the preparations for this reform, in spite of being organized within the framework of the old faculty system.

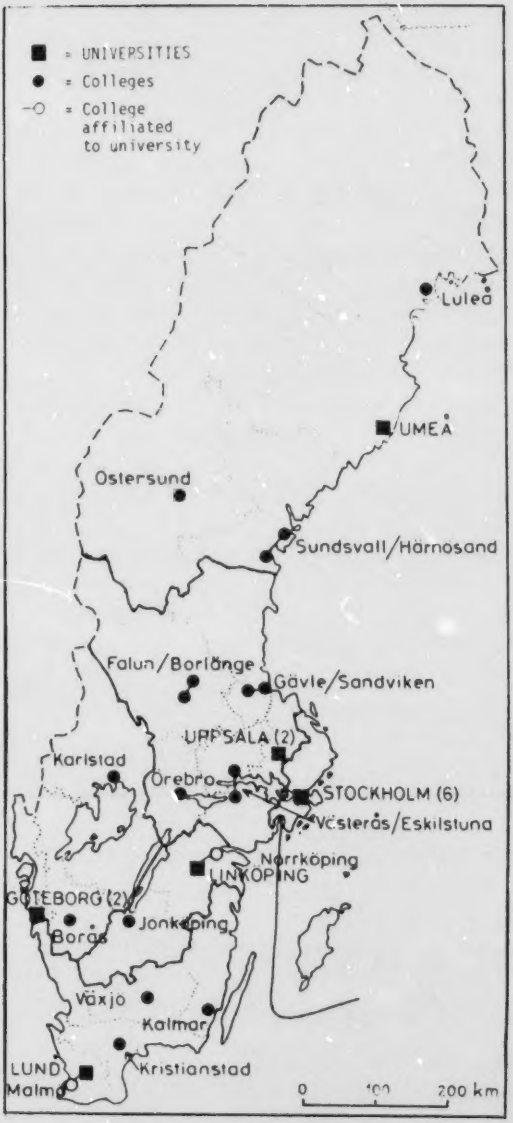

Figure 1.1. Regions of higher education, universities and colleges in Sweden 1977.

We shall now give a brief presentation of the situation during the evaluation of the experimental activities with distance education (see also Chapter 2).

The administrative body for basic university training consisted of the four faculties with their sub-divisions, and only within this framework was it possible to

receive a university education. During this period, distance education was organized by the Faculty of Arts and Sciences. The overall responsibility for distance education was held by UKÄ (the Office of the Chancellor of the Universities) up to 1977, when it was decentralized and placed in the hands of six Regional Boards.

Students, especially distance students, probably felt only a marginal effect of the changeover between the old and the new system. The point system had been introduced into the Faculty of Arts and Sciences already in connection with the PUKAS reform (UKAS 1968). Previously, the majority of subjects in the Faculty of Arts and Sciences were not restricted, whereas distance education has been restricted for the entire experimental period, even though the enrollment procedure was much simpler than it is now.

Let us clarify one point. When we use the term "university studies" in the following, we mean studies, usually within the Faculty of Arts and Sciences, which are organized by the six universities or their branches. The picture becomes more complicated in the follow-up investigation, as it covers a period before and after the reform and necessitates the use of both terms, "university" and "higher education" (see further Chapter 10).

1.2. The basic ideas behind distance education

Distance education at the Swedish universities began in the academic year 1973–74. Before experimental activities were commenced, certain guidelines were issued by UKÄ (1973):

"The exact form of the experimental activities will depend on the particular provisions that can be made by the participating educational establishments and institutions. It is, however, possible to give some general indications as to how the intended experimental activities may be planned and organized. These include:

- a drastic reduction in the amount of oral teaching (compared with traditional university teaching)
- a concentration of oral teaching to shorter, clearly defined, periods
- that participants will mainly pursue their studies individually at home
- that one or more methods will be tested to bridge the physical distance between students and teacher (during periods without oral teaching)
- that the educational establishments assume the responsibility for organizing and implementing instruction" (UKÄ 1973, p 1).

Perhaps we should point out that there were different motives for starting distance education and the other two projects proposed by U68. These motives have varied from time to time. When U68 first proposed the experimental activity in 1968, it was high time to relieve the pressure on the universities caused by a large increase in the intake of students over the past years (SCB 1974a, b) and the en-

suing problems. When distance education started in 1973, the situation was reversed. The intake of students had decreased rapidly and many departments had enormous problems with surplus capacity (UKÄ 1970, 1971, 1972). One of the burning questions became how to recruit new students groups. It is possible that distance education had not met with the same enthusiasm on the part of the departments, had not the problem of declining student numbers existed. These different motives, which in part also apply to evening classes, have resulted in a certain tension around the experimental activities. However, it is irrelevant to elaborate on this here.

Concomitant with the experimental activities with distance education in Sweden, the Committee for Television and Radio in Education (the TRU-committee) was given the task of proposing general models for the organization of distance education in Sweden. A special working-group was appointed, which after reviewing international experience, put forward a number of models varying in the amount of central administration (SOU 1975:72). Dahllöf (1976, p 2, 1977, p 66) has pointed out that the description of the international scene given by the working-group, is characterized by an obvious information bias in favour of a system based on radio and television. To take one example, the information about Australia is completely distorted, as only one limited experiment in broadcasting is described, while the basic model used there for many years has been passed over, even though the bibliography refers to works describing in detail the development of distance education in Australia (Dahllöf & Willén 1981). We should like to point out that the working-group of the TRU-Committee did not themselves speak in favour of any particular one of their suggested models.

1.3. The scope and general organization of distance education

The main pedagogical idea behind the experimental activities with distance education was to test different methods of teaching students who can come to the educational establishment for short periods only. It was a question of finding pedagogical methods which allow instruction and studies to function at a distance from the university. The universities are intended to implement distance education. They were responsible for subject content and the customary planning of courses, as well as creating and using special methods for distance education.

The general design of the distance programmes during the experimental activities has been summarized by Willén & Dahllöf (1979, pp 32–33) in the following way:

"... although the basic model may be said to come close to traditional correspondence education (cf. Holmberg 1977), it should be emphasized

– that the programmes are mainly based on self-studies as in traditional university studies in general

– that the same text-books are used as in ordinary university courses and

– that the same examinations are held, both as regards form and contents.

As in correspondence education, supplementary materials are used mainly in the form of

– written study guides, commenting upon text-books

– assignments to be sent into the university at regular intervals.

The following special aids play an important rôle in overbridging the distance and to increasing teacher-student contacts.

– meetings at the university at least three times per course during the two terms

– audio-cassettes (TV-cassettes have seldom been used)

– teleophone service

The telephone service means that the head teacher or the tutor has a telephone time certain days a week, during which the students can make him a short call. The teacher then calls back at the expense of the university."

Compared with other countries, the Swedish method is unique, as it makes considerable use of the telephone as a distance overbridging aid. In contrast to the Open University in England, the Swedish model is much more decentralized and does not make use of radio and television broadcasting (see further Chapter 2).

Distance education started in the Autumn Term 1973 with 7 courses of study. A further 14 courses started during the Spring Term 1974. Forty-one courses with a total of more than 1 500 students started in the academic year 1974–75 and 54 courses in the academic year 1975–76.

During the academic year 1979–80, 173 courses were calculated to be in operation (Distansundervisningen inför 1980-talet, 1980). The majority of subjects participating in the experimental activities belong to the Faculty of Social Science or the Faculty of Arts. Only 6 of the 41 courses which started during the academic year 1974–75 belonged to the Faculty of Natural Sciences and Mathematics. All courses were intended for part-time students.

Subjects which had been given permission to participate in the experimental activities 1972–1977, received financial support in accordance with the automatic granting system. This means that distance education had more or less the same economic resources as traditional university education. In some cases, however, an additional grant to aid the production of teaching material was awarded by UKÄ (cf. Willén 1978, p 22).

Here we would remind readers that, as a result of the 1977 Higher Education Act, the responsibility for the planning of distance education and the allocation of resources was transferred from UKÄ to the Regional Boards (UBU 1976/77:8, Prop. 1975/76:110).

1.4 The scope and organization of the evaluation programme

Distance education and the evaluation of the experimental activities commenced simultaneously. At first, the intention was to concentrate on evaluating the results of distance education at Umeå University only. However, from Spring Term 1974, all the educational establishments participating in the experimental activities with distance education in Sweden were included in the evaluation programme.

The first stage of the evaluation programme was carried out by the Department of Educational Development at Umeå university, which also was responsible for planning and implementing distance education at the university. Thus, we must be aware that at the start, the evaluation programme was more in the nature of a survey than a research project. The work schedule allowed no time for advanced studies of relevant literature so that the evaluation could be put on a sound theoretical basis. However, in the course of the programme, it became incorporated into the so-called UPPÅT-project (The Uppsala project on recurrent education) at the Department of Education at Uppsala University (see Dahllöf & Westin 1977, Dahllöf, Löfgren & Willén 1979). A common characteristic of the evaluators and the teachers who worked with distance education during these early years, was that both groups had relatively little knowledge and experience in this area.

In this evaluation of distance education, our goal has been to present as comprehensive a picture as possible, by attempting to cover a number of different aspects of the experimental activities which we considered to be of importance. Our point of departure was to be found not solely in common-sense deliberations, but also in a basic view of education as an open system with important links to the surrounding society. This point of view has characterized much of the educational research carried out since the end of the 1960's and stems from the models described in the KOMPASS-project (see Dahllöf 1967). The models concerned the comprehensive school but may very well be applied to an analysis of the university situation (see Elgqvist-Saltzman 1976 and also below).

We see this evaluation as having two target-groups, those who are responsible for planning distance education both centrally and regionally, and those who are actively engaged in teaching at a distance.

The results of the evaluation have been presented in instalments, in order to provide the universities participating in the experimental activities with continuous information (see list of progress reports in Willén 1981, p 95).

The evaluation devotes much space to an analysis of different student aspects such as background, study problems, the use students make of distance overbridging aids and their attitudes to these, study results and the social and psychological consequences of distance education. The data has been collected mainly by questionnaires supplemented by interviews, telephone calls and registration forms. The main part of the evaluation consists of a panel investigation

General background	Motives and goals	Frame conditions	Study processes	Outcomes
Sex Age Basic education	General education Do present job better Change of occupation	Job situation Home situation Planned time for studies	Actual amount of time spent on studies Use of aids Support in studies Collaboration	Passrates General satisfaction Attitudes towards aids and system

Figure 1.2. Paradigm of the variables in the panel study. (Source: Willén 1978, p 223).

(Rosengren 1971) of distance students who began their studies in the academic year 1974–75. The work and attitudes of teachers are also studied, in order to see whether distance education involves changes in workload compared with traditional teaching.

The variables in the panel study can be grouped according to the paradigm shown in Figure 1.2.

Frame conditions are those parts of the immediate environment which may be subject to change, but which most often act as fairly fixed restrictions within which the task must be performed. The term was coined in connection with a study of ability grouping in secondary schools (Dahllöf 1967, 1971, Lundgren 1972). The use of it has to be adapted to the specific problem and setting under study (cf Elgqvist-Saltzman 1976).

Here we shall mention briefly the importance of seeing this type of evaluation in relation to society in general, i.e. of taking into consideration environmental factors and frame factors which may be of importance for the evaluation. On the basis of a distinction made by Dahllöf (Dahllöf 1967, 1973a, 1974), Elgqvist-Saltzman (1976) has presented a model comprising environmental and frame factors relevant for the choices made by a group and their mobility within the educational system:

"... what can be classified as a frame factor varies according to the problem and level of investigation. In all probability, the training programmes available, proximity to education in time and space, and competition on account of the limited intake to certain educational programmes, are all experienced by the individual as limiting his actions in the process of search leading to the right choice of training and profession. These factors are created and changed by decisions regarding educational policy. The same applies to the organization of study and vocational guidance and to the system of study assistance" (Elgqvist-Saltzman 1976, p 71).

The model suggested by Elgqvist-Saltzman, appears even to be applicable to the study of distance education, but we must postpone further development of this

theoretical frame of reference until later.

The evaluation programme also included some special studies. The reason for carrying out these particular studies, was that administrators and planners had a direct need of specific information in order to better their planning of future activities.

One of these studies was an evaluation of the radio programme "Distance minutes", broadcast from Umeå during the academic year 1973–74 in cooperation with the TRU-Committee (Willén 1975a and Chapter 7.3).

Another investigation concerned a group of people who made inquiries about distance education at Umeå University, but who failed to enroll for studies. The aim of the investigation was to find out why those who had asked for information had failed to enroll (see Chapter 3).

A special investigation was made of distance education and other university education in the northern educational region (Tengling & Willén 1975). Following directly on this report, the geographical aspects of recruitment to distance education have been studied in relation to the dissemination of information and to the subjects offered (Willén 1976 and Chapter 3).

A course in communication technique organized by Umeå university in cooperation with the Swedish Trade Union Confederation was described and analyzed. The course corresponded to 8 points and was given in the form of distance studies (Willén 1975c). This experimental activity is one example of commissioned education, which may very well be one of the functions of the university in the future (UKÄ 1975b).

In Figure 1.3, we have tried to give a comprehensive picture of the various components in the evaluation programme. Once again we underline the importance of taking into consideration several factors which may be crucial to the evaluation. When testing a new form of education, numerous areas and interested parties can be the object of study. From our point of view, the most essential task was to glean information from students who had participated in distance education, which could be used to modify and improve future courses. In order to do this, we needed to study the opinions and attitudes of different student groups. An educational innovation, such as distance education, also makes new demands on administrators and, above all, on teachers. It is, therefore, important to weigh the opinions of the one group against those of the other.

Our line of action was to collect information about the organization of distance studies, the frame situation and the study process from several sources and examine it by different methods. For example, teachers and students independently answered questions about the special distance overbridging aids that were used. Teachers were asked to give a detailed account of their planning for distance courses and then later asked how the course actually turned out.

The fact that the evaluation took place during the early days of distance education naturally can have both positive and negative effects on the results. Among the positive effects can be reckoned the "beginners" motivation of teachers and

Investigated group/source of information	Method of investigation. Main variables
University administration	A. Information to the general public B. Entrance requirements. Principles C. Home town of the applicants who have not been accepted and of the distance students
Departments	A. Interview with the head teacher. Planning. Choice of teachers. Method. Examination. B. Drop-outs C. Use of telephone (5 departments in Umeå) Registration of telephone calls. D. Questionnaire after one year of distance teaching. Use of different distance overbridging aids. Attitudes. Use of different examination forms. Opinion of distance teaching and distance students. Pedagogical effects on traditional teaching. E. Interview with head teacher Students' study results
Those who asked for information but did not enroll (Umeå)	A. Telephone interview/Questionnaire Background data including educational background and place of abode. Opinion of distance studies. Reason for not registering. Do they intend to begin distance studies later? Which people began distance studies later?
Applicants who were not accepted	A. Questionnaire to the university administration Background data including place of abode and previous education
Distance students	A. Questionnaire at the beginning of distance studies: Background data. Motive for studying. Professional and work situation. Family situation. Support from environment. Amount of time intended to be spent on studies. B. Interview with distance students (pilot study) C. Questionnaire upon completion of studies: Motive for studying. Actual amount of time spent on studies. Obstacles in the way of studies. Use of and attitude to distance over-bridging aids. Attitude to examination and teaching aids. General opinion of distance education.
Special investigations	A. Distance education and other extra-mural university education in the northern region. B. Cooperation with the Swedish Trade Union Confederation's school in Brunnsvik.
Follow-up investigation five years after the commencement of studies	Questionnaire to distance students regarding a) attitude to distance studies b) occupational situation during the five-year period c) educational situation during the five-year period.

Figure 1.3. Schematized overview of the components in the evaluation of distance education.

students and, presumably, the positive selection of students who previously have not had a chance to participate in higher education. Still another positive factor was the restricted number of participants per course. One of the negative factors was the short time the participating departments had at their disposal for planning (see Chapter 2). Nor did the teachers have the possibility for special training in distance and/or correspondence teaching. The production of teaching material suitable for distance education had to take place during the actual course and without the help and support of experienced colleagues. It is, of course, difficult to predict the effect of all these factors on the results of the evaluation. It may even be that positive and negative factors counterbalance each other to some extent.

To increase the representativeness of this type of investigation, a follow-up investigaiton can be carried out at a later date (see Dahllöf & Willén 1981). However, we must not forget that the aim of the evaluation was to discover problems which need to be dealt with, in order to provide as satisfactory an education as possible for the target groups, which were assumed to be new groups for the university.

1.5 A follow-up investigation five years after the commencement of studies

Some of the results obtained during the process of evaluation, suggested that a follow-up investigation of the group under study would provide further valuable information. Such an investigation became possible within the frame of the UPPÅT-project (Dahllöf & Westin 1977).

The UPPÅT-project has sought solutions to problems within the area of recurrent education. In an introduction to the project, the following thoughts are expressed:

"As everyone knows, recurrent education covers a very wide area as regards research, developmental work and planning. Let us here interpret the concept in its broadest sense, as a basic principle for educational planning aiming at creating genuine opportunities for the majority of the population to have access to education during the greater part of their life-cycle, education which meets the needs of the individual as regards content, form and time. If this is the case, the problem area comprises large parts of the educational sector, but above all, those parts which come under the heading of secondary and post-secondary education, which includes adult education. But recurrent education also has a far-reaching impact on the labour market, economy and social policy" (Dahllöf & Westin 1977, p 1).

The follow-up investigation takes up aspects which in no way were included in the preliminary planning of the evaluation project. The changed rôle of the university in latter years, implies that the greater part of the student body is of interest from the perspective of recurrent education.

The follow-up investigation was carried out during the Spring Term 1979

(Willén 1981) by sending out a questionnaire to former distance students.

The questionnaire mainly dealt with three areas:

- distance studies
- occupational situation during a five-year period
- educational situation during a five-year period

When analyzing the results, we have naturally made use of data gathered during the previous stage of the evaluation programme.

1.6 Disposition of the report

Almost all the material from the evaluation programme will be discussed in this report. Thus, for reasons of space, data presented elsewhere, will be summarized here.

In the following, we shall first give an account of some previous investigations in this area of research. The organization of the experimental activities is then to be described. Problems of recruitment and dissemination of information are illustrated by two special studies. Inquirers, applicants and participants in distance education at Umeå university are then discussed.

The report goes on to describe the organization of the panel study and the frame situation, study commitment, study behaviour and attitudes of the distance students. Next, drop-outs and examination frequency is analyzed.

A follow-up investigation of distance students five years after the commencement of studies follows and the report concludes with a discussion of the results.

1.7 Previous investigations

Most correspondence and distance educational programmes can be said to belong to the area of recurrent education or adult education (James 1971). It is extremely rare that such programmes are part of a country's regular school system. There are, however, exceptions like the School of the Air in Australia, which teaches children of comprehensive school age who live in sparsely populated areas of the country. In Sweden, Hermods provide correspondence courses for Swedish children living abroad (Gaddén 1973).

Courses within the sector of higher education to a large extent have become part of the recurrent education available in Sweden, due to new entrance requirements and study forms. This has given rise to a change in the age distribution of students, many of them now being between the ages of 25–40 (Kim 1978, UKÄ 1974).

However, adult education spans over the entire educational field and higher education is only a minor part of the total investment in recurrent education. The

main contributions are made by the municipal adult education authorities, trade unions and the free educational associations (see Söderström 1981).

The large amount of research on recurrent education during the last ten years is a natural consequence of the political investment in this area (Prop 1973:54, Prop 1975:23). Many discussions of principles and inventories of needs have taken place around the world (CERI 1973, 1975, Council of Europe 1970, Cropley 1977, Lengrand 1975, OECD 1973 and 1974, Ryba & Holmes 1973, UNESCO 1972). Discussions of principles have also taken place in Sweden (U68, LO 1969, Johansson 1970, Bengtsson 1972, TCO 1973, Murray 1980).

A review of adult education in Sweden by Eliasson and Höglund (1971) was used as a basis for the future planning of adult education. Otherwise, the following areas have been the main target of study—educational needs, recruitment problems and drop-outs (Johansson & Molander 1969, Bromsjö 1970, Lekberg & Lekberg 1971, Bergsten, Bromsjö & Rubenson 1972, 1973a, Rubenson 1975).

Research in adult education is a comparatively new area and much of the work done has been on a descriptive level. However, during latter years, there has been a drive to find new approaches both as regards the content of research and the methods used.

An interesting discussion and criticism of the research dealing with drop-outs can be found in Rubenson & Höghielm (1978). Their ciriticsm is, firstly, that these investigations often have had an ex post facto design, i.e. first afterwards has an attempt been made to elucidate why students have discontinued their studies. Secondly, Rubenson and Höghielm criticize the lack of relation to theory, resulting in the study of isolated factors. Rubenson and Höghielm have used participating observations in an attempt to find reasons for the discontinuance of studies.

Lately, it has been pointed out that adults cannot be treated as a homogeneous student group. The specific life-situation of the adult student must be considered (Havighurst & Orr 1956, Havighurst 1970, 1973, Friedman 1970, Marton et al 1977). Rubenson (1975, 1976) has tried to shed some light on the study motives of adults and their reasons for participating in adult education. The motives are clearly many and varied. Factors such as education, age and sex are shown to be related to participation in adult education. The majority of investigations comparing the participation of men and women in adult education have found men to be overrepresented (Johnstone & Rivera 1965). Generally, it can be said that the more education one has received while young, the more one is likely to participate in adult education later in life (see Rubenson 1975 and references).

Hult (1980) investigated the study situation of adult students, focusing on factors which provoked anxiety. The investigated students participated in municipal adult education. No relation could be found between study motive, anxiety and test anxiety. With the help of interviews, Johansson and Ekerwald (1976) made an intensive study of a small group of adult students. A similar approach was also used by a research team in Gothenburg. Using interviews they tried to discover

factors of crucial importance for teaching and learning in adults (Dahlgren et al. 1978). In this connection, we should mention that Broström and Ekeroth (1977) have looked at the consequences of the distribution policy of adult education.

A great many of the problem areas mentioned above have relevance for correspondence and distance education. There are, however, a number of problem areas specific to this form of instruction to which we shall now turn to these areas.

Distance education is a relatively old established form of instruction, which has become increasingly important over the whole world, mainly because of the growing demand for adult education as part of the system of recurrent education.

As previously stated, the experimental activities with distance education were started at very short notice and the time for planning both the activities and the evaluation programme was minimal. Extensive and thorough-going studies of relevant literature were out of the question. Therefore, in this section we shall confine ourselves to the literature we came in contact with during the first year of the evaluation programme. This would seem to be methodologically correct, as it reflects our original situation and the limited possibilities we had of basing the evaluation on earlier investigations of distance education at university level. The final design of the programme and the variables to be studied had to be decided upon by the turn of the year 1974/75. At this point, then, the available research in this special area was sparse. However, we could formulate our plan of work with the help of certain methods from the area of school research. We will return to the literature in this field in a coming section and discuss more recent findings in the light of our results and conclusions. But we should point out that, at the beginning of the 1970's it was unusual for research institutes to devote time and effort to problems concerning correspondence and/or distance education.

Looking at distance education from an international perspective, the concept is found to exist in many forms, the common denominator being that student and teacher are separated by space (Mackenzie & Christensson 1971, Karrow 1979). The methods of overbridging this space are numerous. In the majority of cases, the written word, i.e. books and compendiums, dominate. However, with the upswing of the distance method during the last decade, different technical aids and media have been tested with varying results. During the 1970's, the use of technical aids blossomed, but even now a downward trend in their usage can be seen, probably because of the high costs they incur, but in some cases because the method did not live up to expectations (Dichanz 1979, Hines 1979, Lefrane 1979, Sparkes 1979).

The question of organization has also been tackled in several ways. Internationally, two models for distance education have been favoured:

a) A highly centralized model which relies to a large extent on radio and television broadcasting. This model is used by the Open University in England (Scupham 1975) and Fern-Universität in Hagen, West Germany (Dohmen & Peters 1976, Fern-Universität 1980).

b) A more decentralized model which does not make use of broadcasting. Swedish distance education belongs to this model as does distance education in Australia and New Zealand (Bewley n.d., Dahllöf 1976, Holmberg 1977, Willén 1978).

There are, of course, many intermediate solutions which we shall return to later.

In Sweden, correspondence education at secondary school level has been organized by Hermods since the end of the 1800's. At first, the available courses were mainly commercial ones. The activities gradually expanded and now include many areas and levels of education. In the 1950's, Hermods were granted the right of examination in secondary school subjects (Gaddén 1973). Even so, the number of applicants decreased rapidly during the 1970's, probably due to the reform of comprehensive and secondary school education in the 1960's and the large variety of courses offered by other organizations over the last 15 years.

Eventually, Hermods found themselves in financial difficulties and in 1975, they were taken over by the Swedish Government (Prop 1975: 105).

From our point of view, it is important to mention the fact that Hermods have organized correspondence courses at university level since the beginning of the 1950's (Gaddén 1973). These courses originated in an increased need for English teachers, following a Government Bill in 1950 making English a compulsory subject from the fifth grade of the comprehensive school. Hermod's courses in academic subjects were based on a comprehensive correspondence component and oral tuition during the summer months. Up to 1973, 16,563 students had enrolled for Hermods' university courses. Only 23 per cent (3809) of this large number of applicants passed their examinations. A further 10 per cent completed both the correspondence course and the summer course but did not take their examinations. The large number of drop-outs is puzzling, especially as most of those who enrolled for these courses had already experience of higher education, most of them being teachers in the Swedish school system. We have been unable to find any mention or discussion of this low pass-rate. It would have been interesting to find details of the drop-out frequency at different stages during the study period.

SOU 1975:22 states the following:

"In their reports to UKÄ over the years, the directors of studies have often underlined that the standard of knowledge of those attending summer courses is high, the activity level good and the results far better than those of university students in general" (SOU 1975:72, p 62).

One should be aware of the fact that these judgements only concern a third of those who enroll for such courses. If the comparison is to be a fair one, Hermods' students should have been compared with the best third of the regular university students. Had this been done, the results may have shown a different picture.

There is no real reason for us to compare Hermods' early university courses with their relatively modest intake of students, with our university courses, es-

pecially as Hermods did not evaluate their work. Suffice it to say, that in the early stages of planning distance education, UKÄ negotiated with Hermods without any concrete result.

Other forms of distance education at university level in Sweden are rare. The Swedish Broadcasting Corporation and/or TRU have independently and also in cooperation with other educational associations, produced courses in political science and economics (SOU 1973:19). These courses have been given only once.

In a number of European countries during the 1970's, discussions have been going on as to how distance education ought to be organized.

One of the distance universities which has aroused international interest during the 1970's is the Open University in England (Connors 1973, Ferguson 1973, McIntosh 1973). The Open University started their work at about the same time as distance education commenced at the Swedish universities (The Open University 1972, 1973). During the 1970's, the Open University carried out a large number of evaluation projects. The majority of reports from these projects were published too late for us to be able to make use of them when planning our evaluation project. The outcome of the Open University's research will be taken up later in another connection. However, it may prove difficult to compare the Open University with Swedish distance education as they represent two entirely different systems.

In Norway, a Government appointed working committee have formulated directives for a new institution which is to be responsible for distance education. Distance education is to make use of both radio and television and the Institute is to cooperate with the Norwegian Broadcasting Corporation and the National Film Centre (NOU 1972:41, NOU 1974:36, St. meld, nr 17 1974–75, St. Prp nr 139197, Rande 1979). The Norwegian model is unique, as despite a certain amount of centralization, no large organization was to be established. Tromsö University (1974) in Norway started distance education in mathematics according to the Swedish model in the academic year 1975–76 and later increased the variety of subjects which could be studied in this manner (Krane 1980, Lervik 1980, Gylland 1980).

Finland also started distance education according to the Swedish model (Alanen 1971, Kansanvalistussuera 1976, Kirkinen 1979), while, at the same time, a politically appointed group worked with these questions (Kommittérapport 1975:28).

In Australia, distance education at university level has been in operation since the beginning of the 1900's. From the Swedish point of view, distance education in Australia is interesting, being also organized on a decentralized basis (Smith 1975). Australia investigated the possibility of starting an Open University on English lines, but came to the conclusion that the decentralized distance model already in use was more suitable (OTE 1974, 1975, Braithwaite & Batt 1975).

One problem which we have touched upon previously is that up to the middle of the 1970's, international research in this area had very few connections with

traditional research institutes. This situation changed, once the enormous interest for correspondence and distance education emerged in the 1970's and large organizations like the Open University in England were founded.

In the literature which we had time to examine, we found several descriptions of different systems in different countries (Peters 1965, Pereira 1966, Glatter & Wedell 1971, MacKenzie & Christenson 1971, Perry 1972, El-Bushra 1973, Daniel & Umbriaco 1975, MacKenzie, Postgate & Scupham 1975). What we lacked when reading these descriptions, was an evaluation and discussion of the results.

Early literature in this area, shows that only a few of the existing investigations deal with education at university level. This is probably explained by the fact that early investigations were often instigated by people connected with correspondence education which concentrated on education at a lower level. Many correspondence schools are also run privately. In the following presentation, therefore, we shall specify, which investigations deal with problems at university level.

The studies presented below have been difficult to compare as they concern different countries, different levels of education and are sponsored by various different organizations.

The most acute problem from an international point of view is the question of media and drop-outs. Here, there are several investigations which take up a specific problem without placing it in the context of distance education as a whole. The number of drop-outs in correspondence education and distance education has always been high (see Chapter 10).

Recruitment studies are also part of this problem. Several such studies have been carried out at the Open University in England (McIntosh 1972, 1974, McIntosh & Woodley 1974). In Norway similar studies have been published by Rekkedal (1972a, b, c, 1973a, b), although these have dealt with students below university level.

An adjacent problem concerns the motives adults have for enrolling for distance education and correspondence courses. The following investigations take up this quesiton in connection with studies below university level.

Focke (1975a, b) has discussed the problem of why people enroll for courses and then neglect to send in assignments.

From here, it is a short step to the main problem for many privately owned schools—how to interest people in distance studies. Lampikoski (1975) has attempted to discover the factors in society which influence, and will continue to influence, the need for distance education. To do this, Lampikoski modifies the above question and asks "which factors can be used to arouse people's interest in distance education?" He discusses the follwoing factors: greater need for adult education, greater need of knowledge to cope with the rapid changes in society, greater equality in education, and a greater amount of leisure time.

Young (1975) has studied the problem of how to advertise correspondence

courses, starting with the assumption that good methods must be found at a reasonable cost. Young says that in order to give honest information, the school or institute must believe in the course. As every individual is unique, extensive and detailed information must be given about the course. Former students with experience of the course in question could be consulted.

It has been difficult to find investigations of recruitment to distance education and its relation to geographical factors. Rekkedal (1972c) carried out a geographical survey of students at the NKI institute in Norway and found an over-representation of correspondence students in cities and industrial towns. More than a quarter of the students came from large cities and more than 50 per cent from large cities and towns. Rekkedal found agricultural, forest and fishing areas to have the lowest representation.

Two investigations (Rossi & Johnstone 1965, Noffsinger 1971) with results diametrically opposed to the one mentioned above, are described in a review of correspondence education by Mathieson (1971). These investigations were carried out in the USA, and report an under-representation of students from cities and an over-representation of students from small towns and rural areas.

In Sweden, Hermods (Gaddén 1971) found that in 1948 students came from all over the country and were equally distributed between counties. However, students most often tended to come from small or medium-sized towns. This did not apply student reading university courses.

A common feature in many countries which organize distance education, is that a great many of the students are teachers who wish to better their qualifications. Teachers are in the majority at the Open University in England (Gratton & Robinson 1975). There has been a decrease, if only a slight one, from 34.3 per cent teachers in 1971 to 30.3 per cent in 1974.

In his report on distance education in Australia, Dahllöf (1976) reviewed the occupational background of students at the two largest universities. Two thirds of these students were teachers. The number of teachers has decreased since the 1950's, at which time teachers constituted 85—90 per cent of distance students. Dahllöf suggests that:

> "the decrease probably depends mainly on the expansion of teacher training at the Schools of Education, but also to some extent on a deliberate investment in new subjects on the part of the universities" (Dahllöf 1976, p 60).

The choice of teaching methods and aids best suited to distance education is another area which has attracted attention (see Clarke 1971, Beijer 1972, 1974, Sheath 1972, Granholm 1973, Krajnc & Skoberne 1973, Miller 1974, Perraton 1974, Delling 1975, Farnes 1975). Even here, there are very few investigations at university level before 1975. We shall, however, take up a few investigations from other levels of education.

Cain (1975) has described a couple of projects developed by the BBC in England which suggest a form of network through which people who wish to

study a subject can obtain information on how to go about the matter. Cain is of the opinion that this demands an extremely well-established teamwork between schools, radio, publishers, government authorities and other groups. Gratton and Robinson (1975) consider that distance education with integrated broadcasting requires the assistance of various organizations in society. As broadcasting time is limited, it must be used effectively. Hall (1975) has described a very interesting project in Tanzania, "Man in Health". This project has been evaluated and it was found that the combination of radio, newspapers, written material and study groups which was used, functioned extremely well.

The telephone has played a large part in distance studies during latter years (Short 1974, Turok 1976) and is one of the most important aids in the Swedish project. Daniel and Turok (1975) say that when the rôle of the telephone in distance education is studied internationally, it is seen that technical aids do not need to cause problems. Using the telephone successfully in teaching depends on three factors:

- the simplicity and flexibility of the equipment used
- the other possible alternatives do not appeal to the students
- there must be a good supply of high quality written material.

According to the authors, this means that if the telephone is to be used effectively in correspondence courses, it should be used for both actual teaching and for feedback to the students.

Flinck (1978) gave an account of a telephone experiment, in which two groups were given correspondence courses with telephone help and two other groups received only traditional correspondence teaching. Both groups studied the same subjects, French and business administration. As regards French, the group which had telephone contact with the teachers did better than the control group. The attitudes of the students to the telephone as a teaching aid were entirely positive. One problem in this investigation was the large drop-out rate for students in both courses. The French course was given by an English correspondence school and the course in business administration by a Swedish school. The cultural differences involved have not been discussed. Another technical problem, was that the method of selection of students for the investigation was not comparable for the two countries.

In recent years, group work has also been used in many projects, with varying degrees of success. Mjaaland (1975) reports that in two Scandinavian distance projects, group work functioned very well in one case and poorly in the other.

Many reports have been written on the subjects of drop-outs and media, but there are few scientific studies. Most of the work published, is in the nature of descriptions of different systems. On the other hand, the need for investigations in these areas is great. Erdos (1975) stresses that:

"Case studies of the operation of existing institutions can give us value analyses to guide planning for purpose, projected development, location and size of institutions yet to be established, the relationship of the planned distance education to the other branches of education in the national organization, and the integration which may be desirable of available media. We stand today at a point in the development of distance education when we are particularly well placed to make these studies, for we have so much growth behind us, and so much encouragement in the escalation of the growth of demand for distance teaching which we can see ahead. Planners of future institutions need all the information past experience can pass on to help them make wise decisions to prepare for meeting the pressures of the future, and existing institutions may well need to re-assess their organization, and to adjust it to meet effectively the changing demands of the present and the future" (Erdos 1975, p 19).

In the review of distance education in Australia by Dahllöf (1976) an account is given of a study carried out at the University of Queensland (Meddleton 1964). This investigation is methodologically interesting and illustrates in detail the situation of students, by accounting for their background, their actual study situation, problems arising during studies and study results.

This review of literature shows quite clearly that we had little access to relevant investigations when planning the evaluation of distance education. But, as we said earlier, research in this area has escalated during the last five years and therefore, in our discussion of the results of this evaluation, we shall take up some of the more recent research findings.

2. Organization of the experimental activity with distance education

2.1 Distance courses available in the academic year 1974–75

Work with distance eudcation started in the Autumn term 1973 with 7 courses. In the Spring term 1974, a further 14 courses were initiated. During the academic year 1974–75, 41 courses were in operation with a total of more than 1,500 students. In the yeat 1975–76 the number of courses rose to 54 and in 1976–77 there were estimated to be 85 available distance courses. Most of the subjects covered by the epxerimental activities belonged to the Faculty of Social Sciences or the Faculty of Arts. Only 6 of the courses initiated in the year 1974–75 belonged to the Faculty of Mathematics and Science.

The following section deals with the students enrolled during the academic year 1974–75. Table 2.1 presents the number of courses and students per university during the year 1974–75.

When analyzing the material, the subjects have been divided into groups as it would be impracticable to report the distribution of students for every single subject when studying the different variables. If, in addition to classifying the students according to educational background, age etc, they were also divided up subject-wise, the groups obtained would be too small to permit any definite conclusions to be drawn. The classification of subjects is based on similarity between the subjects comprised by each sector as regards, for example, the background knowledge required (cf. Szymczak 1977). This analysis does not aim at discussing single subjects at each university in detail, but at revealing consistent trends important for deciding what courses to offer and for establishing the general policy for the organizaiton of distance education. For this purpose, a presentation of results at subject-group level seemed most adequate. Table 2.2 presents the courses comprised by each subject-group.

Eight of the 41 courses consist of less than 20 points. Six of them are 10 point courses and 2 are 8 point courses (these courses are underlined in Table 2.2). All but 3 of these courses constitute the first term of study in a subject (A-level). Exceptions are the second term studies in English (B-level).

Some of the courses deserve special comment. Education A3, which is given in Växjö and Lund, is a course intended solely for teachers who have already read 12 points in education at a teachers' training college. Physics A3 in Linköping has an electrotechnical emphasis and does not give the necessary qualifications for teaching.

Table 1.1 Number of distance courses and enrolled students at the participating universities for the academic year 1974-75

University	Number of courses		Number of pupils	
	start Autumn term 1974	start Spring term 1975	start Autumn term 1974	start Spring term 1975
Umeå	8	9	256	321
Uppsala	4	5	124	264
Linköping	-	4	-	170
Göteborg	2	3	66	117
Växjö	2	-	63	-
Lund	3	1	132	35
Total	19	22	641	907
	41		1 548	

Table 2.2 Available distance courses 1974-75 presented according to subject group

Language subjects (L)	Arts subjects (A)	Administrative subjects within the Social Sciences (Ad)	Social Sciences (S)	Economic subjects (E)	Natural Sciences (N)
English A1(3)	History A1(2)	Labour market and personnel administration A1 (2)	Education A3 8p (2)	History of Economics A1	Physics A1 (2)
English B1(3)	History of ideas and learning A1	Public Administration A1 (2)	Education A1	Economics (2)	Physics A3
German A1	History of Art A1	Marketing and consumer policy A1	Sociology A1	Statistics (2)	Computer Science 10p A5/A6
General Linguistics 10p		Introductory course in Law 10p	Educational technology	Business Administration 10p (2)	Mathematics A1(2)
Swedish A5		Community planning A7			Geotechnology A1
		Political science A1			Biology A1 10p
Total: 9	4	8	5	7	8

Twenty-eight of the 41 courses lead to qualifications for a teaching post in the comprehensive and secondary school systems.

The following do not lead to teaching qualifications:

1. Public administration (2)
2. General linguistics 10p
3. Labour market and personnel administration
4. Biology 10p
5. Physics A3
6. Business administration 10p (2)
7. Computer science 10p
8. Marketing and consumer policy
9. Community planning
10. Swedish 10p
11. Educational technology

The above list consists mainly of the so-called professional courses and courses comprising 10 points only. These 10 point courses, however, can be supplemented up to the 20 point level, thus qualifying the student to teach in the comprehensive or secondary school. Recruitment of teachers to these courses has been taken up elsewhere (see Willén 1976 and below).

We shall return later to the fact that in some cases subjects may be organized in different ways.

2.2 Budgetary framework

Subjects permitted by the UKÄ to participate in the experimental activity, were provided with means in accordance with the so-called "automatic" granting system. Thus, distance studies were allocated the same amount of reseources as traditional university education. In the new Higher Educational System which came into being July 1, 1977, distance education is regarded as a free resource. Planning and finance are now both in the hands of the Regional Boards (Prop 1975/76:110).

It ought to be pointed out that in the academic year 1974–75, there were several possibilities for departments starting distance education to obtain extra financial aid.

UKÄ allocated a total sum of 155,000 Swedish crowns to the universities concerned, to supplement basic costs. This sum was then distributed by the University Senate among the subjects starting distance courses. At most, a course could receive 15,000 crowns. The distribution of these means among the participating universities is shown in Table 2.3.

UKÄ also assigned 70,000 Swedish crowns from the reserve fund for educational development at the universities, for the production of teaching

Table 2.3 Financial support from UKÄ in the year 1974-75, in the form of grants to supplement basic costs and grants for the development of teaching aids.

University	Basic cost supplement	Development of teaching aids
Uppsala	20 000	5 000
Lund/Växjö	38 000	15 000
Göteborg	60 000	35 000
Umeå	17 000	10 000
Linköping	20 000	5 000
Total	155 000	70 000

material and aids. The distribution of these funds is also shown in Table 2.3. (UKÄ 1974d).

UKÄ also provided the universities with a total of 160 cassette players and 150 cassettes (UKÄ 1974f).

Umeå university was also granted 13,000 crowns to try out a telecopier. This is an apparatus which can be connected to the telephone and which transmits pictures. The apparatus functions both as a transmitter and a receiver. Transmission of an A4-sized picture takes 4 minutes.

The participating universities also had the possibility of applying for a grant from the local department for education development. It was impossible, however, to discover how much was received by each university from this source, as the grants were awarded at different times.

On the other hand, we know that Umeå university was granted 189,659 crowns for distance education over and above the resorces listed in Table 2.3 (Umeå university 1975). This money came from a special grant to smaller universities to enable them to offer a wider variety of courses. In some cases, distance education was also allocated money from the resources (15 %) which the senate retained from teaching grants (Umeå University 1973). We can assume that similar measures were taken by all the participating universities. This one example is intended only to show that the departments involved in distance education had several possibilities of obtaining extra resources for their work during the academic year 1974–75.

One must, however, bear in mind that these extra resources can not always be added to the sum allocated by the automatic granting system. If a department started a new course such as a distance course, new resources were not allocated automatically, as the automatic granting system is based on the number of students registered during the previous year. To compensate this, UKÄ allocated extra resources to the smaller universities during the budget year 1974–75 to enable them to offer a better variety of courses.

2.3 Planning

As we have previously said, the main idea behind distance education during the experimental period, was to try out different models for teaching students who are only at the teaching institution for short periods. The experimental activity also aimed at testing suitable work forms for distance education. It should be pointed out that most of the teachers had no previous experience of this type of teaching.

Distance education can naturally be organized in different ways within the general framework of the directives given by the UKÄ at the beginning of the experimental period (UKÄ 1973). A common feature of all the study courses is that students only attend university on certain occasions to participate in tuition. During the rest of the course, contact between student and teacher is maintained in other ways, such as by telephone, letter and tape-recordings.

We visited the departments participating in the experimental work with distance education 1974–75, both at the beginning and at the end of the course to find out how the course was planned and how it had functioned.

The interviews with course supervisors were very loosely structured and lasted anything between 2–5 hours. In the Autumn term 1975, a questionnaire was sent to the teachers who had participated in distance teaching during the previous year. The following aspects were taken up in both the interviews and the questionnaire:

a) The planning of teaching and examiniation
b) Contact between student and teacher in this form of education compared with traditional university education
c) Attitude to distance over-bridging aids
d) How did the teaching aids work? Should new teaching material and aids be developed?
e) Changes in the teachers' work load compared to traditional teaching
f) Effects on regular teaching
g) Forms for examination.

The guiding principles for distance education described in this section are based on the information gained from both the interviews with the teachers concerned and from the questionnaire.

One great problem during the entire experimental period has been the short time the departments have had at their disposal for planning. Definite instructions from the Office of the Chancellor of the Universities as to which subjects were to be allowed to participate in distance education came at the end of May–beginning of June. This meant that the subjects which were to start as distance courses in the Autumn term only had the summer months to finish planning for a completely new form of teaching, work which at best had been commenced when the application for permission to conduct distance education had been sent in. In certain cases the departments received a small extra grant for the production of special teaching material. Otherwise planning had to be carried out by redistributing the

already allocated teaching resources. Subjects which started in the Spring term were in a slightly better position.

In spite of these difficulties, the majority of the participating departments have coped with the arduous planning phase in an admirable manner.

2.4 Distance over-bridging aids

It was the decision of the individual department which aids were to be used to over-bridge the distance between student and teacher. In the interview with the participating departments at the beginning of the course, we asked in a relatively general way, how they intended to organize their courses. This information is compiled according to subject group in Table 2.4. All the participating departments planned to have meetings and telephone contact with students. The usage of other aids varied. Only Umeå University had a telecopier which they used for the subjects history of economics, English and statistics. Taped lectures were used most often in language subjects and the natural sciences. Written material is included in the category "study guides" and 34 of the 41 departments said also that they intended to prepare such material for their students. The same applies to personal letters. The subject groups do not differ much in the use of these aids.

So much for planning. We shall now see if the picture changed after the courses ended. In the questionnaire sent to teachers who had been involved in distance education, we asked which aids were actually used. The answers are presented according to subject group in Table 2.5.

In this table, we can see that it was possible to specify the aids used in more detail. This was probably due to the fact that both teachers and those evaluating

Table 2.4 Planned usage of distance over-bridging aids at the beginning of the academic year 1974-75, distributed according to subject group. Absolute numbers. (More than one aid may be used by a subject)

Distance over-bridging aids	Subject group L	A	Ad	S	E	N	Total
Meetings at the university	9	4	8	5	7	8	41
Telephone	9	4	8	5	7	8	41
Personal letters	6	4	7	4	7	5	33
Taped lectures	7	-	3	2	3	5	20
Study guides	8	2	7	5	5	7	34
Telecopier	-	-	-	-	2	2	4
Number of subjects	9	4	8	5	7	8	41

Table 2.5 Use of distance over-bridging aids in each subject group during the year 1974-75. Absolute numbers. (Several aids can have been used in each subject.)

Distance over-bridging aids	Subject group						
	L	A	Ad	S	E	N	Total
Meetings at the university	9	4	8	5	7	8	41
Telephone	9	4	8	5	7	8	41
Written study guides commenting upon the text-books	7	2	8	4	7	8	36
Assignments to be sent in for submission	9	1	8	4	7	7	36
Assignments as self-check exercise	7	4	7	3	7	6	34
Written study guides	8	2	8	3	5	8	34
Personal letters	9	3	6	4	5	6	33
Study letters	7	1	5	3	5	7	28
Taped lectures	7	1	4	-	1	4	17
Number of subjects	9	4	8	5	7	8	41

the work now had a better idea of the aids which could be used in actual practice.

The patterns in the two tables are really very much alike, even though the second one is more specified. Meetings and telephone contact were used by all departments. The next most used aid was written material such as study guides, written study guides commenting upon the text-books, assignments to be sent in, and assignments as self-check exercises. Of the 41 participating departments, 34 have employed these methods.

Study letters were used by 28 departments, mostly in natural science subjects. Only 17 departments used taped lectures which the students could listen to at home. Language subjects most often favoured this method, but even half of the subjects in the natural science and administration groups used taped lectures.

We have not included the special methods used in subjects requiring laboratory work. Let us just mention that in only two subjects, biology A1 in Gothenburg and physics A3 in Linköping, was the laboration material changed so that students were able to carry out certain experiments at home. We have seen that the different subjects vary their methods slightly, but, on the whole subjects are very much alike in their use of teaching aids (see Silverin 1975).

We also asked the teachers if they used the same literature for distance students as for regular students. Only one of the 41 courses had different literature. This exception was Economics A1 in Lund where all the "distance literature" was in Swedish. There is normally quite a lot of English literature in this course. Even the content of the course had been changed to some extent. According to the teachers, the literature used in the distance course provided a better follow-up of theory and

related it more to reality. Two more subjects said that they had made minor changes in laboratory work, but that the differences were negligible.

The planning of teaching and production of teaching material is carried out in an entirely different manner compared with the other main model of distance education, i.e. the centralized model. At the Open University in England (Open University 1975a, b), a course team of around 10 people is formed, including subject experts, educational technologists and BBC producers. It has also been suggested that former Open University students should be added to the team (Newey 1975). The course team produce all the material needed for a course, which must be an advantage when the number of students is large.

At the Open University, a number of handbooks have been produced centrally for different categories of teachers, e.g. "Handbook for Part-time Tutorial and Counselling Staff" (Open University 1975a) and "How to Study" (Open University 1975b). Besides this, all staff continuously receive a publication called "Teaching at a Distance", which takes up problems arising at the Open University as well as presenting articles about other distance educational systems in England and other countries.

2.5 Meetings at the university

As is seen in Table 2.6, the frequency and length of meetings varies according to subject group. We have presented values for the total number of courses as well as separate values for the 20 point courses.

Table 2.6 Frequency and length of meetings at the university, distributed according to subject group, total number of courses and 20 point courses only. Median.

	Total	Subject group						Location	
		L	A	Ad	S	E	N	Umeå	Other
Total number of courses (41)									
Number of times M	4.3	3.2	3.0	5.1	4.4	4.7	5.0	4.1	4.6
Number of days M	11.9	13.9	7.8	12.6	10.0	8.9	15.1	15.1	15.4
20p courses only (33)									
Number of times M	4.5	3.3	3.0	5.4	5.3	4.6	5.7	5.7	4.8
Number of days M	13.2	14.4	7.8	13.1	13.0	10.4	18.0	18.0	13.7

Table 2.7 Number of teachers in the participating courses

Subject group	Tot. number of courses incl. 8 and 10p courses	20p courses	Umeå	Others
Languages	5.1	5.4	5.7	5.2
Arts	4.5	4.5	4.7	(4.0)
Administrative subjects	5.3	5.7	6.7	5.0
Social sciences	4.2	4.0	(7.0)	2.5
Economics	3.1	3.6	4.0	3.0
Natural sciences	7.3	7.8	3.0	10.3
Total	5.1	5.4	5.0	5.7

The different subject groups have slightly varying patterns regarding frequency and length of meetings. The natural science subjects have the largest number of meetings as well as the longest ones. This is explained by the fact that these subjects include laboratory work which only can be done at the university. The administrative subjects also include a certain amount of practical work which must be done during meetings. These subjects also have relatively long meetings.

If we look at the 20 point courses only, we see that the number of meetings and especially the number of days increases. From an international perspective, it is relatively common with face to face contact between teacher and student as far as university studies are concerned (Goodman 1972, Wynne 1973, Dahllöf 1976).

2.6 Number of teachers per course

Table 2.7 shows the number of teachers engaged in the participating courses.

The average number of teachers per course is five. This number includes all categories of teachers, both those who teach only during meetings and those who both teach during meetings and keep in contact with the students during the in-between periods. The number of teachers in the different subject groups varies somewhat. The most striking result is that the number of teachers in the natural science sector is much higher than in other subject groups. We saw previously that it is in this sector that students and teachers meet for a greater number of days compared with other subject groups. This ought to involve a greater number of teachers, especially during laboratory work.

It ought to be mentioned that in certain subjects (e.g. Physics A3 in Linköping and Biology in Gothenburg), the same teacher maintained contact with the students during the entire study period. Even in the majority of other subjects, a

Table 2.8 Examination forms in distance education, distributed according to subject group, in the academic year 1974-75. Absolute numbers.

Examination form	Subject group						
	L	A	Ad	S	E	N	Total
Written examination only	2	-	1	1	1	7	12
Written examination + oral	7	1	-	-	-	-	8
Written examination combined with other methods	-	3	6	4	6	1	20
Individual tasks + group-work No written examination	-	-	1	-	-	-	1
Total	9	4	8	5	7	8	41

system was employed where one of the teachers carried the main responsibility for organizing the course and maintaining contact with the students.

2.7 Examination

The examination form varied a good deal from subject to subject (Table 2.8), We have divided the examination forms into four categories. The first three are written examination, written examination plus oral examination and written examination combined with other forms such as an essay, group-work, or written tasks to be sent in during the term. The fourth category comprises combinations of individual tasks to be completed and sent in and group-work but no written examination.

All departments except one had written examinations and 12 departments have had them on every examination occasion. However, the most usual method was a combination of different examination forms. In the natural science group, the majority of subjects had only written examinations. The examinations almost always took place during the meetings at the university.

It appears that only in a very few cases have the examination forms in distance education differed from those in the regular courses.

2.8 Summary

In this section, we have described briefly the experimental activity with distance education. This activity started in the Autumn term 1973 with seven courses. During the academic year 1974–75, there were 54 courses with more than 1,500

students enrolled. In the experimental activity, social science subjects were in the majority.

When analyzing our material on distance education, the subjects were combined into subject groups. When examining each variable, it was impracticable to calculate results on the number of students enrolled in every single subject. This analysis does not aim at studying details about individual subjects at each university, but at finding possible consistent trends of importance for planning what courses to offer and for deciding on a general policy concerning the organization of distance education.

In this section, we have presented the budgetary framework of the participating departments and the special technical aids used in distance education. The most common distance over-bridging aids were meetings at the university, the telephone, written study guides commenting upon the text-books and assignments to be sent in for submission.

The frequency and length of the meetings varied among the participating subjects. Natural science subjects had the largest number of meetings, days and teachers.

The form for examination varied, even though almost all departments had written examinations at some time or other. A combination of examination forms was most common. The examination almost always took place during meetings at the university.

3. Information and recruitment problems

3.1 Information to the general public about distance education

Already during the early stages of planning distance education, it was clear that questions of recruitment and information to presumptive students must be dealt with without delay.

It is true that the university had recruited adult students for several years, but these students had studied in a traditional manner, attending either daytime or evening classes. Even in this area there was very little reasearch, probably because the university has always had a clearly defined target-group which has come to the university of its own accord. Changes in the 1970's, such as new entrance requirements, new forms of distribution, the attitude of the university to new student categories and the declining stream of students, forced the university to revise their publicity work regarding information to presumptive students (cf. Abrahamsson 1974, 1976, UKÄ 1974b).

When working with distance education, which is a study form directed at new groups of students distributed over a large geographical area, it soon became obvious that the university's resources were under-dimensioned both as regards staff and money. To give but one example, the only chance Umeå University had of formulating and distributing information about distance education, was to enlist the help of relief workers. In all fairness, these workers did a good job.

One advantage with this arrangement, was that all central issues concerning the overall planning and evaluation of distance education were dealt with by one and the same department at Umeå University. Once work routines were tested and evaluated, it was easier to delegate the work to already established departments.

In this chapter, we shall summarize a number of investigations dealing with information and recruitment problems in distance education. These investigations have been presented in more detail elsewhere (Willén 1975b, 1976, 1978). As they are based, among other things, on a comprehensive map material (Willén 1976), it would take too much space to present all the relevant information here. Interested readers are referred to the separate reports.

The group of people investigated at this point in the programme were:

1. Inquirers at Umeå University during the academic year 1974–75. This group did not apply for distance education (N=265).
2. Applicants who were not accepted for distance education in the academic year 1974–75 (N=576).
3. Distance students enrolled during the academic year 1974–75 (N=1548).

Groups 2 and 3 originate from all the Swedish universities participating in the experimental activities with distance education (see Chapter 2).

At all five universities, the central administration assumed responsibility for information to the public. The resources set aside by the universities for publicity work were, in all cases, placed in the hands of the administration.

The participating universities chose to inform the public in different ways and to spread this information over different geographical areas. The powers of invention were impressive. Umeå University was the only university to rely solely on one method of spreading information, namely, the distribution of a folder to every household. Umeå has also only distributed information locally, that is within the educational region, which is, however, a widespread one.

Each university had the option to decide whether to recruit students from one particular area or whether to extend their offer to the entire country—so-called national recruitment. An interesting question here, was whether the information distributed was general or specific, i.e. if it was directed at the entire population in an area or at a specific target-group only. General information about all courses was distributed locally. Twenty-one of these 40 courses also distributed selective information locally, mainly in the form of a folder to special target-groups. Nine courses gave general information on a national level, often by advertising in the daily press. A larger number of courses, 15 in all, distributed selective information on a national scale. A number of these advertised in teachers' journals or other professional journals.

Thus the information profiles of the universities differed, as did the form of distribution of information for different courses. Umeå University stands apart from the other universities by using only one channel of information and then in a general way, while for example, the Universities of Lund and Linköping used several channels in both a general and selective manner. The other universities took an intermediate line of action.

Three universities, Uppsala, Linköping and Lund, distributed information on a national scale, whereas the others concentrated on spreading information in their own regions. Between 20–35 per cent of the distance students at the three first-mentioned universities came from outside the regional boundaries (Table 3.1).

In spite of not distributing information nationally, 21 per cent of the distance students at Gothenburg University lived outside the regional boundary. A further analysis shows that the majority of these students lived just south of Gothenburg in the county of Halland, which belongs to the educational region of Lund. Parts of this county (for example Kungsbacka) are within commuting distance of Gothenburg.

An important factor for recruitment is the variety of subjects the universities have to offer. Subjects tend to differ in popularity. It is interesting to note that Linköping had a proportionally large number of applicants. In the Spring Term 1974, there were 400 applicants to four subjects. As many as 171 applied for the course in electrophysics. It is worth taking a look at this subject as the Depart-

Table 3.1 Distance students living outside the regional boundaries. Per cent.

Local information only			National information		
University	Autumn 74	Spring 75	University	Autumn 74	Spring 75
Umea	2.0	1.6	Uppsala	20.2	36.0
Gothenburg	21.2	17.1	Linköping	-	68.8
			Växjö	33.3	-
			Lund	22.0	31.4

ment of Physics chose to supplement the information distributed by the central administration, with selective information of their own. The course was special, as it did not lead to qualifications for teaching like the A1 course in physics. The large number of applicants was probably due to the specialized subject combined with the information channel used, namely advertisements in professional journals.

Most of the subjects which chose to spread information on a national scale, were subjects which led to basic or additional qualifications for teaching. The universities of Uppsala, Linköping and Lund and the university branch in Växjö, advertised in one or more of the teaching journals. A comparison of subjects leading to teaching qualifications at these four universities and the same subjects at Umeå and Gothenburg who did not advertise, shows that the former universities had a higher proportion of teachers among their distance students (38 % as compared to 28 % at Umeå and Gothenburg). The same tendency was noted among those not accepted for distance studies.

3.2 Entrance regulations and their effects

The number of applicants to distance education in the academic year 1974–75, exceeded the number of available places. In this section, we shall touch briefly upon the problem caused by the fact that the participating universities interpreted the principles for accepting applicants in slightly different ways.

UKÄ (1974a) issued special directives for the acceptance of students to distance education courses. The directions were as follows:

- The number of students in each course shuld be limited to 30.
- The final selection of qualified applicants should be made in accordance with the provisions concerning the precedence of qualified students to restricted courses and study programmes within the Faculty of Arts and Science, issued

by UKÄ 1970–09–01 (modified 1972–01–24 and 1973–02–13) and supplementing the official notice (1967:450) of provisional regulations for entrance to higher education.

- In accordance with the rules laid out in §21 of the above notice, the Vice-Chancellor of the University may accept at most 10 students for each course involved. In doing so, special consideration should be given to circumstances which hinder or make it extremely difficult for applicants to participate in university studies other than distance studies.
- Students who have participated in university studies other than distance studies during the term immediately preceding application, should not be accepted for distance studies without special reason.
- Distance students should not be allowed to participate simultaneously in other forms of study concerning the subject in question.

During the academic year 1974–75, Gothenburg University applied for permission to increase the free quota to 50 per cent when accepting students for the Spring term 1975. Permission was granted by UKÄ (1974g) in consultation with the National Board of Education.

Umeå University considered that:

"The aim of a distribution form such as distance education should be primarily to try to reach out to new student categories, e.g. the educationally under-privileged, the geographically restricted, the handicapped and older people."

The consequence, and on the grounds of previous experience, Umeå University decided that the following criteria should be applied when determining which applicants to accept:

- social factors
- geographical distance
- study possibilities in home town
- possible handicap
- age of applicant

Thus, somewhat different entrance regulations were employed by the universities concerned. This was mainly a result of the many discussions which had taken place regarding the aims of distance education. At a very early stage, the universities began to debate which groups should be the target-groups for distance education. Here, the social aims of distance education were sharply underlined. According to a number of teachers, the prime aim should be to provide education for under-privileged groups. At the beginning of the academic year 1974–75, UKÄ (1975a) defined the main target-group as geographically restricted, gainfully employed adult students. Information from the administrative sections of the participating universities in the Autumn Term 1974, shows that a very large proportion of applicants, 34 per cent in all (N=631), were accepted on the

Table 3.1 Number of applicants accepted and not accepted in the Autumn term 1974 (in the same subjects), distributed according to educational background and reason for acceptance. Umeå University and the whole country. Per cent.

	Whole country		Umeå	
	accepted %	not accepted %	accepted %	not accepted %
Educational background				
Compulsory schooling	25	35	40	32
Acceptance grounds				
- exemption	6	8	7	14
- according to §25:5	28	29	44	23
- total: exemption + §25:5	34	37	51	37
N	260	212	104	99

grounds of the regulation of extended admission (cf. Chapter 1). The figure for those not accepted was somewhat higher, 37 per cent (N=212). These figures varied from university to university. Umeå University accepted almost half of the applicants (N=277) on the grounds of extended admission, whereas the corresponding figure for Lund was only 18 per cent (N=89). The other universities lie somewhere inbetween.

These results are related also to the number of students with a poor educational background (Table 3.2). Of those who applied to Umeå University, 34 per cent (N=376) had only compulsory schooling. Thirty-two per cent (N=99) of those not accepted had compulsory schooling only. In some of these cases (6 %), the applicants had passed a university examination (5—20 points) or attended a university study circle. The other universities lie much lower in this respect. It is interesting, however, to see that the situation at the other universities was the reverse of that at Umeå, i.e. compared with the group of accepted applicants, many more of those not accepted had only compulsory schooling.

We also looked at the subjects at Umeå University which did not accept all applicants, in order to see if there were any difference. In Umeå, there was a larger proportion of distance students with only compulsory schooling compared to the group which had not been accepted. It could also be seen that 51 per cent of these students had been accepted on the grounds of extended admission.

These results suggest that, in practice, the particular application of entrance regulations will influence the composition of the group of distance students (cf. Kim 1978). Many educationally under-privileged people applied for distance education, but because of the way in which entrance regulations were interpreted, they had difficulty in being accepted anywhere except at Umeå.

3.3 Geographical recruitment. Distance from home to the university town for inquirers, applicants and distance students

There are several ways of measuring the distance from a student's home to the university. The best method would naturally have been to obtain the person's own description, in terms of both distance and time, but this was out of question. We could, ourselves, have worked out how long it would take to reach the university by car or other method of transport. Again this would have been far too complicated and probably not worth the effort. The easiest and the most appropriate way was to measure the distance as the crow flies.

The material was divided into four distance groups. The first group consisted of people who lived within a 50 km radius of the university. The second group lived 50–100 km from the university, the third group 100–200 km from the university and the fourth group consisted of those living more than 200 km away. A 50 km limit was chosen, as it has been shown that people are willing to travel this distance to the university (SOU 1972:23, Hammarberg & Häggström 1974). The 50 km limit is not only applicable to university studies. It is also a normal commuting distance (Hammarberg 1974, Weissglas 1975, SOU 1974:1). A commuting distance of 50 km is even cited in respect to other types of journeys. Hammarberg (1974) studied communication conditions in areas of low population density and says:

"Communication conditions in areas of low population density are intimately related to service facilities. Both commercial and public services are dependent on an efficiently functioning transport system. This is independent of whether the service function is to be made available in the home or whether people are to be transported to the service function, for example, to a municipal centre. In latter years, the interest for such questions has focused on the following problem: how to create an efficiently functioning transport system so that the population in a particular area can reach neighbouring service facilities and municiple centres. A 30–45 minute one-way journey has been judged to be acceptable" (Hammarberg 1974, p 43).

In the preliminary analysis, we had a further category, composed of those who lived 500 km or more from the university. This group was found to be represented at Umeå University only and therefore was excluded.

The geographical recruitment to distance education varied greatly between universities (Table 3.3). Over half the applicants to Umeå University live more than 200 km away. The largest group of applicants and accepted students at Uppsala and Linköping live in the interval of 100–199 km from the university. Roughly 70 per cent of distance students at Gothenburg University live in the Greater Gothenburg area. Lund University has more than half of its applicants and accepted students in the two extreme categories, more than 200 km and less than 50 km away.

These differences can partly be explained by the varying sizes of the educational regions. Uppsala University spread information over a much wider

Table 3.3 Distance between home and the university. Inquirers, applicants and distance students. Per cent.

University Term	Distance in kilometres home - university -49	50-99	100-199	200-	Total	N	Number of courses
Umeå Autumn 74							
inquirers	2	12	18	68	100	137	-
applicants	2	3	39	56	100	101	3
accepted	2	7	37	54	100	98	3
Spring 75							
inquirers	4	8	23	65	100	128	-
applicants	-	7	30	63	100	46	1
accepted	-	3	23	74	100	34	1
Uppsala Autumn 74							
applicants	3	12	58	26	100	31	2
accepted	10	17	50	23	100	66	2
Linköping Spring 75							
applicants	27	12	35	26	100	230	3
accepted	16	19	52	13	100	128	3
Gothenburg Autumn 74							
applicants	68	19	8	5	100	111	2
accepted	35	35	17	13	100	65	2
Spring 75							
applicants	71	15	14	-	100	48	1
accepted	44	23	21	12	100	61	1

area than its own educational region, but in spite of this, the majority of applicants and accepted students lived within a 200 km radius of Uppsala. Of course, it may be so that students chose to study at the nearest university, but this was not true for all courses. Electrophysics at Linköping University attracted applicants from all over the country. This is interesting, as it shows that a stimulating variety of courses with the right publicity, can attract applicants who are prepared to study despite the distance between their home and the university.

Another interesting question was how many of the people in our investigation came from university towns or their vicinity. We have seen that when accepting students for entrance to distance studies, the universities interpreted the entrance regulations in somewhat different ways. For example, Umeå University did not accept anyone who lived within 50 km of the university without a special reason, e.g. physical handicap. This condition was expressed clearly in the information distributed to the public. A total of 8 per cent distance students and 19 per cent applicants in the academic year 1974–75 came from a university town. As regards the number of students who lived within the 50 km radius there were considerable variations between the universities. Two per cent of the distance students

at Umeå, 10 per cent at Uppsala, 17 per cent at Linköping, 42 per cent at Gothenburg, 24 per cent at Växjö and 43 per cent at Lund belonged to this category. Thus, the metropolitan areas of Malmö/Lund and Gothenbrg had the largest number of students whithin a 50 km radius of the university. Based on Australian experiences of many distance students who have easy access to conventional university education, Dahllöf (1976) pointed out that new educational forms may be needed even for students who live in the vicinity of a university.

3.4 Distance courses given simultaneously at more than one university

During the experimental activities with distance education, it was unusual for the same course to be given at more than one university. This was probably due to a conscious policy on the part of UKÄ to test as many subjects as possible and to avoid competition between the universities during the experimental period.

In spite of this, 9 courses were given simultaneously at more than one university. In 7 of the 9 cases, the courses were given at Umeå University and one other university. In 6 cases the same courses were organized by universities whose regions bordered on each other. Half of these cases concerned Umeå and Uppsala Universities, both of which have very widespread regions.

In two cases, the same subject was given by both Linköping and Gothenburg Universities. In one instance, the course Education A3 was given at two places within the same educational region. In only one case was the same subject organized by three universities, one of which was Umeå. Figures 3.1–3 present the distribution of students in the following three combinations:

1. Lund and Umeå (Economics)
2. Gothenburg and Linköping (English A1)
3. Gothenburg, Linköping and Umeå (English B1).

The other six cases can be found in a previously published report (see Willèn 1976, pp. 53–61).

The results show that there was no real competition between the universities involved. It is, however, difficult to generalize, as the circumstances during the experimental period were rather special. Umeå University, which in 7 cases out of 9 offered the same subjects as another university, had only spread information within its own educational region. The distance from Umeå to other educational regions in Sweden is great.

Apart from Umeå and Uppsala, the educational regions are relatively small, and therefore the question arises whether or not the planning of distance education and other forms of external university education should be done on a national level (cf. Kälvemark & Östergren 1975).

Figure 3.1. Distance students in economics at the Universities of Umeå and Lund, Autumn term 1974.

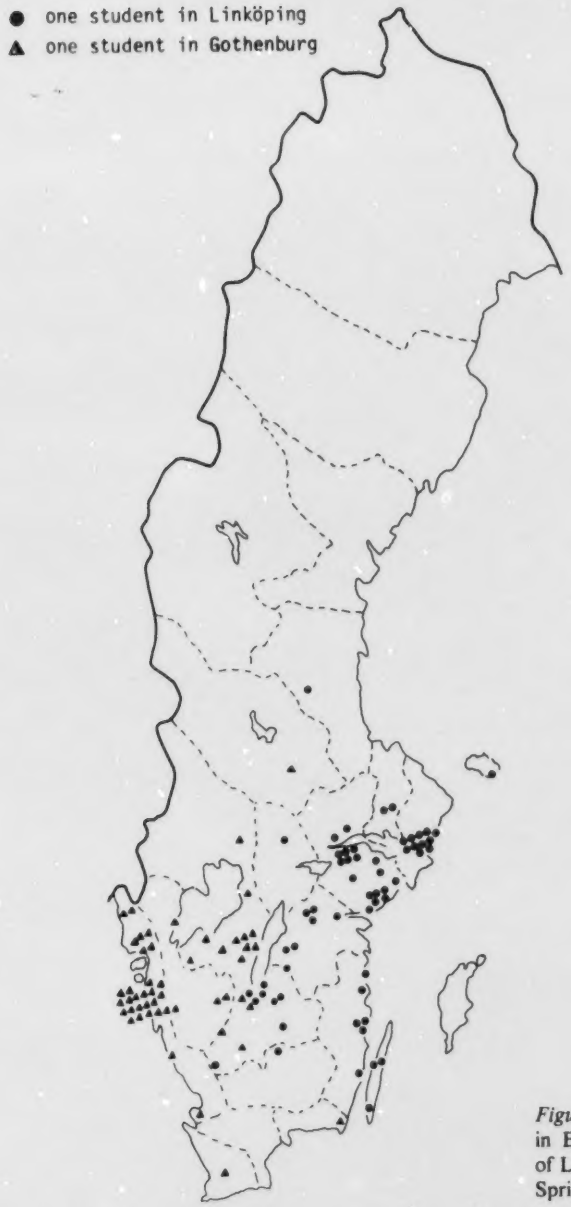

Figure 3.2. Distance students in English at the Universities of Linköping and Gothenburg, Spring term 1975.

Figure 3.3. Distance students in English (B1) at the Universities of Umeå, Linköping and Gothenburg, Spring term 1975.

In the academic year 1974–75, distance education was entirely new and there may have been an accumulated need for university education in the country. Should this need decline, it is very possible that the competition between universities, especially those in Central and Southern Sweden will intensify. The risk of a saturation effect within individual regions, speaks in favour of free competition between the universities. Without this, certain courses may have to be discontinued because of the small number of applicants.

3.5 Distance education and other external university education in the northern educational region

In the Autumn term 1974, it seemed profitable from several aspects to study distance education and other forms of external university education in more detail. About this time, a report was published (Hammarberg & Häggström 1974) discussing other forms of external education, namely, university study circles organized by the educational associations (UC), systematic, decentralized university courses (SDU) and decentralized university courses DU). There was an extensive variety of available university courses in the northern educational region. However, only a few (15 of 81) of the university courses offered by the educational associations actually started (Table 3.4).

The available courses were concentrated to the larger coastal towns (Figure 3.4). Kiruna had also a large variety of courses organized by the educational associations, while Jokkmokk and Lycksele had only one decentralized university course each. Östersund, besides two university circles run by the educational associations, had both systematic, decentralized university courses and decentralized university courses. Systematic, decentralized university education was mostly scheduled for the daytime and, thus, cannot be considered a realistic alternative for distance students, as these are often fully employed.

A large proportion of distance students came from the coastal areas (Figure 3.5), but there were also many from areas where no university courses were available. If we look at subjects given both as external university courses and as distance courses, we see that only a few places in the northern educational region besides Umeå could offer both forms of education, and then, only in a few subjects (Figure 3.6).

Not all the courses planned by the educational associations could start, due to lack of students. Those which did start were English and statistics in Luleå, English and economics in Sundsvall and English, physics and education in Östersund (Figure 3.7).

Of the 257 distance students, 30 read English, 36 statistics, 12 physics, 47 economics and 33 education. Only 13 of these 158 students lived within a 50 km radius of the place where the subject of their choice was taught. If these figures are compared with those for systematic, decentralized education and decentralized

Table 3.4 Number of external university courses offered and number started at the beginning of the Autumn Term 1974 in the northern educational region

	Univ. circles (UC)	Syst. dec. univ. educ. (SDU)	Dec. univ. educ. (DU)	Total
Number of courses offered	81	12	21	114
Number of courses started	15	12	20	47
Proportion which started	19%	100%	95%	41%

Figure 3.4. External studies in the northern region of Sweden, Autumn term 1974.

education, the reverse picture is found. Only 13 (7 %) of the 175 people who studied the subjects in these forms lived outside the 50 km radius (Table 3.5).

Economics in Sundsvall and statistics and English in Luleå were also organized in the form of full-time systematic decentralized university education and it was therefore unlikely that distance students would be able to participate in these courses.

This implies that, in all, only 5.1 per cent of the distance students had a theoretical possibility of participating in the courses of their choice within 50 km of home.

Figure 3.5. Distance students who commenced studies in Umeå, Autumn term 1974. One student lived in Munich.

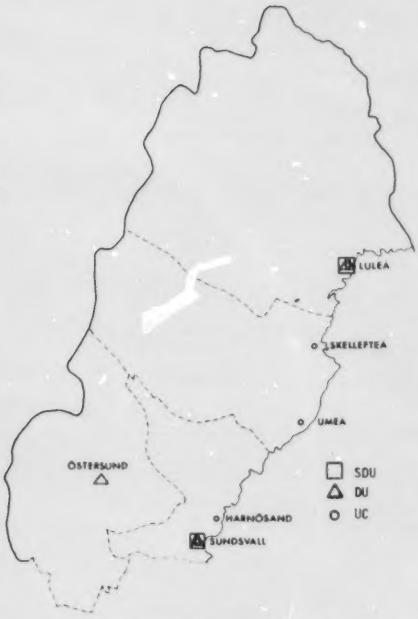

Figure 3.6. Towns in the northern educational region offering the same subjects both as external university courses and distance courses. Autumn term 1974.

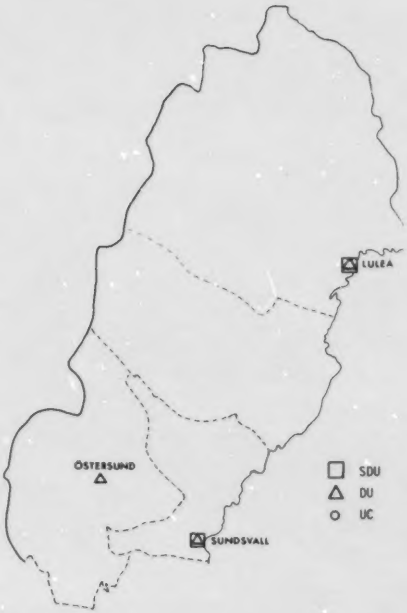

Figure 3.7. Towns in the northern educational region where external university courses have started in subjects also given as distance courses. Autumn term 1974.

Table 3.5 Distance between home and location of course for students participating in distance education and other external university education. Per cent.

Distance between home and location of course	Distance education %	Other external university education %
Less than 50 km	8	93
More than 50 km	92	7
Total	100	100
N	158	175

It is quite clear that distance education and other forms of external university education teaching curricular subjects, do not in any way compete with each other. On the contrary, they supplement each other.

One ought to note, however, that when a subject is available both in the form of distance studies and as a local, external course, the overwhelming majority of interested people who live relatively near the location of the course, prefer the local, external form.

3.5.1 Relation between area and recruitment to distance education

It has emerged from several international studies that a large proportion of distance students are teachers by profession. Dahllöf (1976) presents the occupational background for distance students at the two largest universities in Australia. Almost two thirds of these students were teachers. A decline in the number of teachers had been noted since the 1950's, at which time they constituted 85–90 per cent of distance students. Teachers are also over-represented at the Open University in England (Grattan & Robinson 1975). However, even here, there has been a decline from 34.3 per cent teachers in 1971 to 30.3 per cent in 1974.

In our investigation, we began by taking a look at the proportion of applicants to distance education, who lived in so-called secondary school areas. Our aim was to see if those with jobs or interests related to the secondary school were over-represented among the distance students.

The following three groups were included in the investigation:

a) Inquirers about distance education at Umeå University in the academic year 1974–75 who did not apply (N=265).

b) Applicants who were not accepted for entrance in the academic year 1974–75 (N=576).

c) Distance students enrolled during the academic year 1974–75 (N=1548).

Groups b and c are composed of students from all the Swedish universities participating in the experimental activities with distance education.

In order to study this problem, we found out first, how many people in each of the three groups, lived in a seconary school area. We then calculated the proportion of the total Swedish population living in these areas and arrived at a difference between the national figure and the figures for the groups studied We deemed it correct to exclude the population of the university towns (Stockholm, Umeå, Uppsala, Linköping, Gothenburg, Växjö and Lund) from the national figure, as distance students should not really come from these places. For the sake of comparison, we also excluded people who lived in these university towns from our three groups: 117 distance students, 110 applicants and 4 inquirers at Umeå University (see Willén 1976, p 70).

The fact emerged that, compared with the population in general, people living in secondary school areas were over-represented in all three groups. We also made a special analysis of the northern educational region, correcting for age, i.e. comparing only those between 20–59 years of age. This proved to have only marginal effects on the results. Thus, we can conclude that distance education 1974–75, attracted more applicants from larger towns, so-called secondary school areas, than from rural areas and smaller communities.

This may have several explanations. In secondary school areas with a more highly developed commercial and industrial life, more people may feel the need for further education because of their profession. In recent years, the pressure on education has increased in Sweden and may be especially strong in areas which already have easy access to education. These results are also in line with the experiences of the Open University (McIntosh 1972, McIntosh & Morrison 1975) and municipal adult education in Sweden (cf. Molander 1973, Rubenson 1972, 1975) which show that recuritment in the first instance comes from groups which already have some sort of post-secondary education. These groups are more likely to be found in secondary school areas than in smaller communities situated in areas with low population density. We can also assume that the opportunities for education and culture found in secondary school areas have a stimulating effect on study interest.

3.5.2. Recuritment of teachers in relation to information and the available courses

Of the 41 courses involved in this investigation, as many as 27 lead to teaching qualifications.

The following categories of teachers were included. The percentage of teachers in each group is given in brackets. The figures refer to the academic year 1974–75. Already here, we can see that compared with previous international studies, the percentage is low.

1.	Nursery school teachers	(0 %)
2.	Comprehensive school teachers (grades 1–3)	(5 %)
3.	Comprehensive school teachers (grades 4–6)	(22 %)
4.	Teachers of practical or artistic subjects	(14 %)
5.	Subject teachers with basic degree and Diploma of Education	(32 %)
6.	Subject teachers with basic degree only	(11 %)
7.	Subject teachers with a post-graduate degree	(1 %)
8.	Subject teachers without academic qualifications	(10 %)
9.	Others, education not specified	(4 %)

The largest group of teachers was found in category 5, subjects teachers with a basic degree and a Diploma of Education. This is somewhat puzzling, as these teachers are the most highly qualified and should by rights be those least in-

terested in acquiring further qualifications. There were 142 teachers in this category and 74 of them (52 %) studied one of the following three subjects: Education A3 in Lund and Växjö (19.8 %), earth science (15.5 %) and German (8.5 %) in Uppsala.

It is evident that subjects which do not lead to teaching qualifications also attract a smaller proportion of teachers. The information available about the applicants who were not accepted in the Autumn term 1974 shows a similar trend.

Some universities and departments published information about their courses in special teaching journals, such as "The Vocational Teacher" and "The School World". Courses leading to teaching qualificaitons which were advertised in the teaching journals, were compared with similar courses which had not made use of this type of publicity. The results show that this type of information attracted a considerably higher proportion of teachers. The same tendency was seen among applicants who could not be accepted. This is proof that information in the teaching press had the expected effect.

3.6 Inquirers, applicants and students accepted for distance studies at Umeå University

3.6.1. A comparison between inquirers, applicants and distance students at Umeå University

When working with distance education at Umeå University, it seemed essential to try and find out why people who had asked for information about distance education did not apply for entrance. In an attempt to answer this question, we investigated a group of people who had shown interest in distance education at Umeå University during the period from the Autumn term 1973 to the Spring term 1975 (Willén 1975b). An analysis was made of the following variables:

- sex
- age
- marital status
- educational background
- place of residence
- attitude to distance education
- attitude to information about distance education
- reason why inquirers did not apply
- proportion of inquirers who intend to apply at a later date
- number of inquirers who actually began distance studies

A comparison was made between the group of inquirers and two other groups, namely, those who had begun distance studies at Umeå University and those who had applied for entrance to a distance course and not been accepted. Thirty

courses were included in the investigation (see Willén 1975b, p 4). The interest for distance education varied from term to term. A total of 4,861 inquiries was received by the university.

Inquirers were defined as people who had shown interest in distance education (i.e. inquired in some way about distance education at Umeå University), but who have not applied.

Applicants were defined as people who had applied for a distance course, but who had not been accepted on account of the restricted number of places.

The method of data collection varied somewhat during the investigation. In Autumn 1973, a sample consisting of 30 per cent of the so-called inquirers was interviewed. The interviews followed a pre-constructed questionnaire.

Because these interviews proved so time consuming, they were replaced from the Spring Term 1974 to the Autumn Term 1975, by a questionnaire which was posted to the people concerned.

On the last three occasions, a 25 per cent sample was investigated. The total response frequency was 78.4 per cent (N=421) which must be considered a completely satisfactory figure. This group was then compared with distance students (N=899) at Umeå University during the same period, as well as a group of applicants who had not been accepted (N=338) (see Willén 1978, pp 84–85).

Certain methodological problems emerged when comparing the three groups. We were aware of the fact that we were contrasting two populations with one sample (inquirers). Therefore, the significance of the differences between the groups was to be tested only if two criteria were fulfilled:

a) The trend in the differences during the four term period must be in the same direction.

b) The difference in the combined figures for all four terms must be 10 per cent or more.

There were no differences between the groups as regards sex, age, marital status, number of children and regional distribution.

However, there were some small differences regarding educational background. More inquirers than distance students had no secondary school education. There were also small differences in occupational situation.

Even so, the differences which did emerge between the groups, were so small that they can in no way explain why some people apply to distance education and others do not.

3.6.2 Why did inquirers show interest in distance education and why did they not apply?

When questioned as to why they had showed interest in distance education, 25 per cent of the so-called inquirers said that they were unable to move from their home

town (Table 3.6). Note that more women than men gave this reason. Almost as many people answered that they were interested in the idea of further education. Ten per cent of the female inquirers and 15 per cent of the male inquirers answered that they thought this seemed a very good form of further education. Over 60 per cent of the group of inquirers referred to the study form, when giving a reason for their interest. This was encouraging, as it was a sign that the information about the special characteristics of this form of education had been understood.

The reasons why inquirers did not apply were many and varied (Table 3.7). Almost 50 per cent gave reasons which were within the university's power to influence. These reasons were: wrong subject, meetings an obstacle, entrance requirements too high and doubtful about study form. The majority of this group said that they had not applied as the subject they wanted to study was not available or because they thought they would have difficulty in attending meetings.

The other reasons for not applying can be combined into a category which cannot be influenced by measures on the part of the university. The most frequent answers belonging to this category concerned practical problems: i.e. illness, moved to another town, family reasons, prefer to work, did not get round to applying and applied too late (cf. Woodley & McIntosh 1977). Women tended to refer to this type of problem more often than men. This may be partly a result of the study aid system in operation at that time (SOU 1977:31). Approximately 9 per cent of the male and female inquirers could not get leave of absence from their jobs. Ninety-three people gave two alternative answers to this question, 21 gave three alternatives and two people gave 4 alternatives. This brings the total percentage to more than 100.

We can ascertain from the answers to this question, that were the university to make a number of changes, more people would be able to participate in distance education Even in the future, it will be important to find out why people inquire about distance education and then do not apply. All forms of education directed at new target-groups benefit from this kind of information.

3.6.3 Plans for future distance studies

We also asked this group of inquirers if they intended to begin distance studies at a later date. More than a third said they would consider starting a distance course the following term and almost half the group would consider starting at a later date (Table 3.8). Only a small percentage said that they would definitely not consider distance studies in the future.

It would seem that there is a large, prospective group of applicants to the university (cf. e.g. SOU 1972:19, SOU 1973:9). Quite a large proportion of this group cannot begin, however, until certain changes are made on the part of the university and society.

As 40 per cent of the inquirers said they intended starting distance studies the

Table 3.6 Reason for inquirers interest in distance education, distributed according to sex. Per cent.

Reason	Male %	Female %	Total %
Tied to home town	23	28	25
Interested in further education	22	24	23
Good form of education	16	11	14
Increase competitiveness	7	11	9
Supplement studies already started	9	8	8
General desire to study	8	8	8
Improve teaching qualifications	4	2	3
Unemployed	3	2	3
Curious about distance education	1	4	2
Other	1	2	1
No answer	6	2	5
Total	100	100	100
N	236	185	421

Table 3.7 Reason why inquirers did not enroll for distance education, distributed according to sex. Per cent.

Reason	Male %	Female %	Total %
Wrong subject	21	15	19
Meetings an obstacle	17	16	17
Cannot meet entrance requirements	10	14	12
Doubtful about the form of education	1	2	1
Practical problems	26	35	30
Cannot get leave of absence	8	9	9
Financial difficulties	7	12	9
Changed work assignments	7	4	6
Started other training	8	8	8
Too difficult	3	3	3
Other	20	18	19
No answer	4	3	4
N	236	185	421

Table 3.8 Would inquirers consider starting distance studies at a later date? Answers distributed according to sex. Per cent.*)

Answer	Male %	Female %	Total %
Yes, next term	41	38	40
Yes, later on	51	45	48
Probably not**)	6	6	6
No	2	1	2
No answer	7	10	9
N	236	185	421

*) Several people have given more than one answer and therefore the total percentage comes to more than 100.

**) This alternative was not included in Spring Term 1974.

following term and more than 50 per cent said they intended starting at a later date, we considered it worthwhile to find out how many actually did begin. To do this, we checked the registration lists for the Spring term 1974, the Autumn term 1974 and the Spring term 1975 to see how many of the inquirers from the Autumn term 1973, the Spring term 1974 and the Autumn term 1974 were to be found there. It turned out that only a very small proportion, 33 of 326 (10 %), actually began distance studies (Table 3.9).

Thus, about a quarter of those who answered that they intended to start distance studies the following term, did so in reality. Of those who answered that they intended starting the following term or at a later date, only 10 per cent registered during the duration of the investigation.

Nevertheless, we must remember that as regards the group who intended to begin later, "later" may be a date after the last occasion on which we checked the registration lists. According to this analysis, a somewhat larger proportion of men than women began distance studies.

We also checked for inquirers who applied but were not accepted. Only three such cases were found.

3.7 Summary

In this section of the report, we have described various information and recruitment problems.

The group of people investigated in this part of the research programme, consisted of:

Table 3.3 Inquirers who later commenced distance studies.

	Male	%	Female	%	Total	%
I Number of inquirers Autumn -73 Spring -74 and Autumn -74	180		146		326	
II Number of I who answered that they intended to begin distance studies next term	72	40	56	38	128	39
III Number of I who answered that they intended to begin later	99	55	69	47	168	52
IV Inquirers who began distance studies	21		12		33	
V Inquirers who began distance studies, proportion of I		12		8		10
VI Inquirers who began distance studies, proportion of II		29		21		26
VII Inquirers who began distance studies, proportion of II and III		12		10		11

1) Inquirers about distance education at Umeå University during the academic year 1974–75. These people did not apply for distance studies (N=265).

2) Applicants who were not accepted for distance studies during the academic year 1974–75 (N=576).

3) Distance students during the academic year 1974–75 (N=1,548).

Groups 2 and 3 came from the Swedish universities participating in the experimental activities with distance education. During the academic year 1974–75, 41 courses were given in the form of distance studies. As regards informing the public about distance education, the methods and extent of the publicity work varied from university to university. Umeå University used only one channel of information, namely, a folder distributed to all households in the northern educational region. This restriction of information is reflected by the fact that Umeå University had practically no inquirers, applicants or distance students from outside their own educational region, which is, however, an extensive one.

Three universities, Uppsala, Linköping and Lund, chose to spread information outside the regional boundaries. Twenty to thirty-five per cent of the distance

students at these universities were recruited from outside the regional boundaries.

The geographical recruitment to distance education, varied greatly from university to university. A good half of the distance students at Umeå University lived more than 200 km from Umeå. The largest group of applicants and enrolled students at Uppsala and Linköping lived 100–199 km from the university towns. Approximately 70 per cent of the applicants and 40 per cent of the enrolled distance students at Gothenburg University lived in the Greater Gothenburg area. More than half the applicants and enrolled distance students at Lund University were to be found in the two extreme groups—those who lived more than 200 km from the university and those who lived less than 50 km away. These variations, naturally, partly depend on the size of the particular educational region.

During the academic year 1974–75, a total of 8 per cent of the distance students and 19 per cent of the applicants who were not accepted, came from one or other of the university towns. There were considerable inter-university differences in the number of distance students who lived within the 50 km limit. On the basis of experiences from Australia, where large numbers of distance students have easy access to conventional university education, Dahllöf (1976) points to the possibility that new forms of education may be needed even for those living in the neighbourhood of a university (see also Lundmark 1980).

A great quantity of part-time education is organized at Swedish universities, mostly in the form of evening classes (UKÄ 1971, SCB 1976). Teaching is concentrated to 2–3 evenings a week. It seems, therefore, reasonable to suppose that distance education proper, should be offered to those who live a long way from the university. But we must remember that in the larger university towns, it may take a student a long time to travel from home to the university, in order to participate in evening classes. In these towns and their surroundings, shift work may aiso be usual. A possible alternative for distance and part-time students living in metropolitan areas, may be to combine them into one group and use a modified form of the distance model. If such a model is to be used, it is important to identify the assignments which can be worked on at home, and at the same time find the right balance between individual studies and studies together with the other students and teachers. Should several students live in the same area or suburb, study circles could be organized to advantage. Instead of all participants making long journeys once or twice a week to a central meeting place, supervision could be delegated to local tutors, a head tutor visiting each group at regular intervals. The telephone service used in distance education would be a good supplementary aid at a reasonable cost. Taped lectures were requested by distance students and could be perhaps used even in this model. The study form suggested here would appear to have advantages for both students and teachers. Teachers would have less evening teaching. Financially, the combination of evening classes and distance education could be a saving. Material produced for distance studies should be also suitable for evening classes. Students now enrolled in evening classes would have fewer journeys to the university and, besides, greater freedom in plan-

ning their studies. Students with shift-work or baby-sitting problems would find it easier to participate in studies.

An interesting investigation in this field was carried out at the University of California in USA (Zelan & Gardner 1975). The authors asked 1,767 full-time students what changes they would like to make in the teaching at the university. A third of the graduates and more than 10 per cent of the undergraduates said they definitely would choose part-time studies were it possible. This answer was more usual among the older students and those who were married. The students also were asked to choose between several alternative study forms. The majority chose so-called "contract learning program". This implies that there is no campus and that teachers and students assemble in local meeting-places. Studies are laid up individually for each student and may include courses from different colleges and even correspondence courses. Several such contracts are made until the student eventually receives his degree. Another alternative, chosen by somewhat more than 10 per cent of the students questioned, was a form of education similar to the Open University in England. The investigation shows that the students wanted more flexibility as regards time and place of studies. This would enable them to devote some time to other occupations, such as a job or their families. Swedish universities can be said to have already taken a step in this direction.

During the experimental activities, the universities did not usually offer the same courses. This was probably a conscious policy on the part of UKÄ to prevent competition during the experimental period and to test a large number of subjects. There was the odd exception to this rule.

The results show that there was little competition between the participating universities. However, it is difficult to generalize on the grounds of these results, as the situation during the experimental period was an exceptional one.

Distance education was also entirely new at this point and there may have been an accumulated need of university education in the country. Should this need decline, the competition may very well intensify, especially in central and southern Sweden.

The risk of a "saturation effect" within the individual educational regions speaks in favour of free competition between the universities, allowing them to recruit distance students from all over the country. If this is not done, certain distance courses may have to be discontinued because of lack of students. In order to avoid long journeys for students, one solution may be for a department to temporarily move its distance teaching to another university.

A principal problem for almost all external university education is deciding on the target groups.

At the beginning of this report, we investigated the proportion of inquirers about distance education who came from so-called secondary school areas. Compared with the Swedish population in general, inquirers about distance education at Umeå University, applicants who were not accepted and distance students at all the universities, were over-represented in secondary school areas.

Regarding the recruitment of teachers to distance education, only 29 per cent of the distance students were teachers. This is a comparatively low figure internationally. In our material, the largest group of teachers was comprised of those with an academic degree and Diploma of Education (32 %), in other words, a well-qualified group.

Here we touch upon a problem of educational policy. Which group does society intend to be the target of distance education. Can one and ought one to establish which groups are to be the target of this form of education? In recent years there has been much talk of educational quality, both in Sweden and other countries. One of the aims of adult education in Sweden is to narrow the existing educational gap in society, thus furthering equality and social justice. In the case of distance education, which must be seen as a form of adult education, very little has been said about the composition of student groups. It has been a continually recurring topic of discussion at the conferences organized by UKÄ for teachers involved in distance education. The reflections of a group of teachers are summarized as follows:

"What is the aim of distance education? This question is composed of a number of other questions which were discussed in the group. One of these, was which target groups do we want to reach with distance education and, if these groups are, in practice, those which we already have. Do we reach only those who are already well-educated and wish to increase their competence? Ought we to try and reach those with a lower educational standard and fewer study skills? The answers to these questions will help us to decide on the methods and organization of distance education. In this connection, we looked in vain for an official policy on the question if, and how, the universities are to reach out to groups who do not have the possibility to participate in regular university education" (UKÄ 1974, p 26).

The above quotation is a good illustration of the central problem of distance education. Before we have defined the target group for distance education, it is difficult to know what information to give to the public and how to distribute it. We have now gained some experience of these problems and can put our knowledge to practical use. Different target groups also require that the methods at the disposal of distance education be structured in different ways.

In this section, we have also given an acocunt of an investigation of a group of so-called inquirers at Umeå University. We were primarily interested in why these people who had asked for information did not later apply for entrance. The investigation ran over four terms and comprised 421 inquirers.

The group of inquirers was compared with two other groups—applicants who were not accepted and distance students at Umeå University. The following variables were compared: sex, age, marital status, number of children, educational background, occupational situation and regional distribution. The differences which emerged were so small that they could not explain why some people apply for distance education and some do not.

More than 60 per cent of the inquirers were interested in distance education because they thought it a good form of education.

The reasons for not applying were many and varied. Roughly a third of those questioned mentioned obstacles which, in principle, could have been dealt with by the university. These included the variety of subjects, the organization of meetings and the high entrance requirements. The remaining group gave reasons outside the sphere of the university, such as financial difficulties, practical problems and a changed occupational situation.

The majority of inquirers, however, said they would consider starting distance studies either the following term or later on. It is interesting to note that not many actually did apply. Only a quarter of those who said they intended starting the following term, in fact did apply, and of those who said that they intended starting at a later date, only 10 per cent applied during the investigated period.

Part II
Participants' views on distance education

4. The organization of the investigation of participants

4.1 The investigated groups

In this section, we shall present the results of a questionnaire sent to distance students, concerning their study efforts, problems and attitudes to distance education in general, its organisation and teaching aids.

We shall also analyse the study results of the participants as reflected in examination frequency and the number of points taken during a certain period of time. In both cases, the results concern students who commenced distance studies during the academic year 1974–1975.

As regards study results, every student who began studies, was followed up in the registration lists. A separate analysis of those who participated more actively in studies will be made, by examining the study results of the panel group which answered both questionnaires (cf. Elgqvist-Saltzman 1976).

A questionnaire was distributed on two occasions. The first one (see App. 1) was sent out when the students were accepted for a distance course. It mainly comprised questions about the students' background, social situation, motives for studying and the amount of time they intended to invest in studies.

The second questionnaire (see App. 2) was distributed at the end of the study period, usually directly after the last meeting. In the case of 20 point courses, the questionnaire most often was sent at the end of the second term of studies. The form used on this occasion comprised questions about motives for studying and the current study situation, as well as a number of questions concerning attitudes towards conditions during the two terms of study.

In principle, each qustionnaire could be presented separately. As we must always reckon with the fact that not everyone will answer and that probably some students will have broken off their studies, we can expect more responses to the first questionnaire than to the second one.

Our main interest is in the reactions and attitudes expressed by the active participants in the second questionnaire, especially in the light of the background information give in the first questionnaire. Thus, it is the information from the panel group who answered both questionnaires which will be utilized in the first instance.

Of all the possible groups we could have used, the panel group is the smallest. On the other hand, we have almost complete background information for this group, which means that our calculations can be based on a constant number of participants.

The answers to certain questions can be analysed separately for:

- the large number of participants who answered questionnaire 1
- the somewhat smaller number of participants who answered questinnaire 2
- the panel group which answered both questionnaires.

A presentation of this nature, however, would be extremely cumbersome and boring to read. Therefore, we have chosen to present the results from the panel group only. This decision was made after we had compared the three groups on some important background and motive variables and found the differences in the results to be both minimal and unsystematic. We can conclude that the panel group is essentially representative for the larger groups which have answered one or other of the questionnaires.

4.2 Questionnaires and response frequency

One of the pre-conditions for reasonably reliable results is that the questionnaires have sufficiently high response frequencies in relation to the size of the populations which received them. The target-group for questionnaire 1 was comprised of students accepted for distance studies. As far as the second questionnaire is concerned, it is hardly reasonable to include students who broke off studies at an early point. The same applies to the investigation of study results.

The original basis for all calculations was the number of distance students who had applied in advance and been accepted (N=1548). Two groups of early drop-outs are presented in Table 4.1. The first group consists of those who never began distance studies. On account of the special circumstances under which distance education operates regarding meetings and student contacts, it was difficult to delineate the population for questionnaire 1 in advance. The calculations in Table 4.1 are based, namely, on information from teachers at the various departments.

The second group consists of study breaks. In calculating the number of "active students", we have followed the principle previously used by UKÄ when analysing examination frequency. The number of students with no points were excluded, a measure which probably led to an underestimation of the size of the early drop-out group (Dahllöf 1975, Dahllöf & Lundgren 1971 and Elgqvist-Saltzman 1973).

The response frequency in Table 4.1 was calculated in two ways. Firstly, we used a broad definition of the population, implying that in questionnaire 1, we calculated the response frequency in relation to the total number of accepted students, including those who never began, whereas in questionnaire 2, these early drop-outs were excluded. The response frequency, using this method, was 81.4 per cent and 81.6 per cent respectively. These are really quite satisfactory values (cf. Stukát 1966), although because of the method, somewhat on the low side.

Table 4.1 The questionnaire population and response frequency

Questionnaire Specification of groups	Population Gross (a)	Reduct. (b)	Net (c)	Answer N (d)	Percentage answers Gross (d/a)	Net (d/c)
Questionnaire 1						
Accepted - never began	1548	176	1372	1260	81.4	91.8
Questionnaire 2						
Net population questionnaire 1	1372					
- 0 points reason for study break known		93	1279	1120	81.6	87.6
- 0 points reason for study break unknown	1279	108	1171	1120	87.6	95.6

Therefore, we calculated the response frequencies making the relevant reductions. Those who did not begin studies were excluded from questionnaire 1 and those without any points who also motivated their study break, were excluded from questionnaire 2. The response frequencies when calculated by this method are as high as 91.8 per cent and 87.6 per cent. If we exclude also from questionnaire 2 those without points who have given no reason for a study break, the response frequency rises to 95.6 per cent.

Thus, the gross figures for response frequency are relatively high and the net figures even higher. These results correspond to a similar material of adult students participating in decentralized education, reported by Szymczak (1977). When one finally arrives at the group which actually commenced a distance course, the response frequency suggests that we are dealing with a group of students who are deeply involved in their studies.

We shall not analyse the early drop-outs in any great detail here. As seen in Chapter 3, this question has been dealt with in connection with inquirers about distance education and applicants who were not accepted, and we have insufficient information about the group who neglected to take the step from enrollment to active participation in studies. Suffice it to say that the size of this group is fairly normal for the Faculty of Arts and Sciences (cf. UKÄ 1974) even though, remembering Elgqvist-Saltzman's (1973) observations that this faculty sometimes serves as a "waiting-room", one can speculate on the possible realistic study alternatives for those who applied and were accepted for distance education. Even in these cases there are study alternatives in the form of university circles and municipal adult education as well as distance studies in another subject. The latter

alternative presupposes that some of the 1,548 students who were accepted, applied for more than one subject. The Open University in England have noticed that a large proportion of drop-outs occurs between notification of acceptance and the start of the course (Calder & McIntosh 1974).

Finally, we can state that the panel group (N=797) constituted 68 per cent of the net population for questionnaire 2 and 71 per cent of those who actually answered the questionnaire. We reported earlier that when analysing the results of certain questions in questionnaire 1, only small, unsystematic differences were found between the panel group and the total group of 1,260 respondents.

4.3 Composition of the panel group: sex, age and educational background

There were slightly more men (56 %) than women in the panel group (Table 4.2). The traditionally skewed sex pattern is found in the different subjects, women being over-represented in languages and arts subjects and men over-represented in administrative, economic and natural science subjects (cf. UKÄ 1974b, Elgqvist-Saltzman 1976, André 1975, Franke-Wikberg & Johansson 1975, Szymczak 1977).

More than half the panel group was over 35 years of age (Tab. 4.3), an extremely high figure compared with similar investigations (Franke-Wikberg & Johansson 1975, UKÄ 1974, Szymczak 1977). More than 20 per cent of the distance students were over 45 years of age.

Table 4.2 Distribution of the panel group according to sex and subject area. Per cent.

Sex	Total	Subject area[1]					
		L	A	Ad	S	E	N
Male	56	22	44	75	51	75	76
Female	44	78	56	25	49	25	24
Total	100	100	100	100	100	100	100
N	797	201	82	147	82	141	144

[1] The following abbreviations for subject areas are used:

L = Language subjects
A = Arts subjects
Ad = Administrative subjects within the Social Science
S = Social Sciences
E = Economic subjects
N = Natural Sciences

Table 4.3 Distribution of the panel group according to age and subject area. Per cent.

Age	Total	Subject area					
		L	A	Ad	S	E	N
-24	4	1	-	2	1	11	6
25-34	42	33	37	46	54	41	48
35-44	33	36	33	33	27	33	33
45-	21	30	30	19	18	15	13
Total	100	100	100	100	100	100	100
N	795	201	82	146	82	141	143

In this respect, there were interesting differences between the subject groups. Languages and arts subjects attracted more older people. Fifty-five per cent of the students reading social science subjects were under 35 years of age, which can be explained partly by the fact that a third of this group were enrolled in Education A3, a course which recruits many of its students from Teachers' Training Colleges (see Chap. 3).

When the distance students were distributed according to educational background, we see that a fifth of them had no secondary school education, 27 per cent already had an academic degree, 18 per cent had some form of teacher training and 33 per cent had secondary school education (Tab. 4.4).

Here again, there were differences between subject areas. Compared with other areas, administrative and economic subjects attracted a large proportion of students with secondary school education only or less than secondary school education (71 % and 67 % respectively). In a previous table (Tab. 4.3) we saw also that these students were often under the age of 35.

Table 4.4 Distribution of the panel group according to educational background and subject area. Per cent.

Educational background	Total	Subject area					
		L	A	Ad	S	E	N
No secondary school	21	16	18	35	(15)	24	15
Secondary school	33	38	(15)	35	20	43	30
Teacher	18	22	34	(6)	29	16	13
University	27	22	33	24	35	16	41
Total	100	100	100	100	100	100	100
N	797	201	82	147	82	141	144

Four out of ten students reading natural science subjects had a university education behind them when they commenced distance studies. This is almost the same for social science subjects. We can also see that only a small proportion (6 %) of those reading administrative subjects were teachers, a figure which is in agreement with what we found previously in the larger group of teachers (see 3.5.2).

In the following, we shall deal with the panel group of students who participated actively in studies. In our presentation, we shall emphasize the pedagogical aspects of distance education. We said earlier that we considered it essential to analyse the students' frame situation in order to understand study behaviour, attitudes and study results. This we shall do in the next section, by analysing the students' goals and study alternatives, before going on to look at their frame situation and the amount of time they invested in studies. Unless otherwise indicated, the tables give the percentage values for the responses of the different sub-groups. Only in exceptional cases are all the response alternatives given and therefore the total percentage is seldom 100. A complete presentation would have entailed a considerably larger number of tables, often two for each variable. For the purpose of reviewing the main results, such combersome material is hardly motivated. The original tables are available at the Department of Education at Uppsala University.

The material has also been distributed according to age and university. The latter implies that the results from Umeå University are presented separately while the results from the other universities are combined.

5. The students' goals and study alternatives

5.1 Motives for distance studies

When we constructed our question about motives for studying we wanted to be able to compare the answers with the answers to similar questions from students participating in two other forms of experimental university education initiated by U68, namely:

a) systematic university education

b) a combination of study circles, self-instruction material and videotape.

Both these forms of education had been started earlier and both had been evaluated (see section 1.1).

The aim of all three projects was to test new distribution forms for higher education. A further aim was to attract new student categories. Thus, to some extent, we chose similar alternatives to our question as those used in the other two evaluations. When the students answered this question at the commencement of studies, they were allowed to mark more than one alternative. The most important alternatives were to be marked with two crosses and the others with one cross. In Tables 5.1 and 5.2 all the reasons for studying given by the students have been combined, which means that the total percentage exceeds 100.

The group is presented both as a whole and distributed according to sex, age, subject area, educational background and university.

As many as 54 per cent of the total group of students said that they studied to improve their general education. Among the other alternatives given, several take up occupational factors, such as:

To acquire a professional training
To get promotion
To be able to change jobs
To do present job better
To improve chances on the labour-market.

These alternatives were chosen by the respondents, to a total of more than 100 per cent.

We must nevertheless bear in mind that, because of the construction of the question, it is hard to compare the proportion of answers giving occupational reasons, with the proportion giving general educational reasons. Only one alternative concerned general education whereas five dealt with occupational reasons. We see now that this was a weakness in the construction of the question. It would have been desirable to include more alternatives concerning, for example, self-

Table 5.1 Reason for studying in relation to subject area and university. Per cent.

Reason	Total	Subject area						University	
		L	A	Ad	S	E	N	Umeå	Other
General education	54	56	86	45	47	51	51	60	51
Waiting for other education	6	6	5	6	4	5	4	7	4
Supplementing previous training	4	2	6	3	7	4	4	4	4
Basic professional training	3	3	3	3	6	5	-	4	3
To further promotion in present job	41	35	26	56	34	48	42	39	44
Wish to change jobs	15	15	6	25	13	17	7	14	15
Want to do present job better	34	28	26	41	44	30	41	34	35
Want to have a better chance on the labour-market	41	35	26	56	34	48	42	39	44
Other	18	22	22	15	15	19	15	20	17
N	797	201	87	147	82	141	144	326	469

actualization, interest for subject and personal development. Some of the reasons which were allotted to the category of general education, probably would have found such alternatives more fitting. As it was, the large number of occupationally focussed alternatives encouraged a preponderance of such motives. In the light of the above, the percentage of answers naming general education as a motive for studying is remarkable.

In spite of these shortcomings, the question still illustrates that the majority of distance students had more than one motive for studying and that these motives were often interwoven. A number of students who said that their reasons for studying were occupational ones, also said that they studied in order to improve their general education. A more detailed analysis of the combination of answers will be accounted for later, but even at this stage, we see that the pattern was essentially the same as found by Szymczak (1977) in his investigation of decentralized education, where general education was often given second place.

The two other alternatives to this question, "waiting for other education" and "supplemantary studies" received very few markings.

We shall now analyse the way in which different sub-groups answered this question. Women tended to indicate general educational motives more often than men.

Table 5.2 Reason for studying in relation to sex, educational background and age. Per cent.

Reason	Tot	Sex		Educational background				Age			
		M	F	No sec. school	Sec. school	Teacher	Univ	-24	25--34	35--44	45-
General education	54	52	56	55	51	63	52	46	53	55	57
Waiting for other education	6	3	8	7	8	1	3	18	6	4	5
Supplementing previous training	4	4	4	2	5	5	5	15	5	3	4
Basic professional training	3	2	6	5	5	-	-	11	5	3	1
To further promotion in present job	41	43	40	48	43	32	43	43	48	44	25
Wish to change jobs	15	14	16	20	22	4	9	18	16	15	9
Want to do present job better	32	42	25	36	28	39	40	8	28	39	46
Want to have a better chance on the labour-market	41	43	40	48	43	32	43	43	48	44	25
Other	18	17	18	15	23	16	16	28	18	15	22
N	797	448	349	167	261	146	216	28	336	265	166

Unfortunately, in this presentation, the age groups are not divided up according to sex and so we cannot see if the women in our investigation were more occupationally motivated in age groups when they were less likely to have the responsibility of a home and family. This was not found to be the case in the interviews carried out with a small number of distance students. On the contrary, distance studies could easily be combined with responsibility for a home and children.

Occupational motives varied over age, being strongest between 25—44 years, after which they decreased. General educational motives, on the other hand, increased with rising age. These results are born out by other investigations. However, we ought to take a further look at the alternatives concerning occupational motives. Four of them formed a falling scale in relation to age. The one

exception was the alternative "to do present job better", which showed a steep increase with age, i.e. the older the student, the more likely this was given as a motive for studying. This seems quite logical, as the first four imply outward changes in occupational situation, whereas the latter alternative need imply no other motive than the desire to become better at the job one has. The alternatives "waiting for other education" and "supplementary studies" naturally were most typical of students under the age of 25.

In previous investigations (Johnstone & Rivera 1965, Johansson & Molander 1969, Rubenson 1977) it has been found that the lower educational background a person has, the more likely it is that they have occupational motives for studying. This is well in agreement with our results. On the other hand, this is not reflected in the alternative "general education" as the differences here were extremely small. In this distribution of the material, teachers were the group which most often answered that they studied for general educational reasons and least of all for occupational reasons, which perhaps can be explained by the fact that they usually have a permanent position and cannot influence their occupational situation by further studies to the same extent as the other groups. In an earlier report (Willén 1976 and Chapter 3 in this report) dealing with the recruitment of teachers to distance education, it was found that fewer teachers enrolled for subjects which did not lead to extra teaching qualifications. In the same report can be found answers to a question about what distance studies meant for the students. It seems that very few of the teachers regarded distance studies important from the point of view of their job. Instead, the majority of answers to this question gave the impression that teachers studied, because they found it an interesting and rewarding hobby. We had expected that the group of university students also would show the same pattern, which indeed they did, although not so clearly as the teachers. This is perhaps due to the different occupational situation of these two groups. Evidence in support of this argument is that, compared to other groups, teachers have less often marked the alternatives "to gain promotion", "to be able to change jobs" and "to stand a better chance on the labour market". We can mention in passing, that each year, the National Board of Education arrange a large number of in-service courses for teachers.

As regards the two alternatives "basic professional training" and "to be able to change jobs", we found that they were far more common among students without secondary school education and among those with only secondary school education, whereas teachers and students with a university background seldom chose these alternatives. On this point our result support previous ones.

Remarkable results also emerged regarding the students' choice of subject area (Table 5.1). Firstly, those reading arts subjects more often did so for general educational reasons and secondly, those reading administrative subjects more often had occupational motives for studying. This brings us to the subject of the students' goals and their determination to succeed with distance studies.

When compared with systematic decentralized education, the results for the

group as a whole, point in the same direction, i.e. most students had occupational motives for studying. The same results were also found in the third form of the experimental activities.

To return to previous investigations discussed here, we can say that we have received further support in favour of the more "complex theories" of the type based on the concept of the lifecycle (see e.g. Rubenson 1975, Chapter 7 and references). From this presentation, we can see that the goal of studies cannot be regarded as a single identifiable factor. Instead, it must be seen to consist of a number of components, each of which is influenced by several covarying factors (see e.g. Hopper & Osborn 1978).

5.2 Study goals and study determination

By study goal we mean whether a student intends to take a degree, or to read a single subject or subjects. Study determination expresses the students' self-confidence in the face of studies (see Carlsson & Linnaluoto 1964).

In the questionnaire sent to the students at the commencement of their studies, they were asked whether they intended to take the full degree course, or single subjects. Table 5.3 presents the answers to this question distributed according to a number of sub-groups.

Twenty-five per cent of the students answered that they intended to take a

Table 5.3 Study goal and attitude in relation to subject area and university. Per cent.

Variable	Total	Subject area						University	
		L	A	Ad	S	E	N	Umeå	Other
Goal									
Single subjects	61	63	72	55	70	40	76	59	63
Degree (+ perhaps a degree)	25	23	16	32	17	41	9	25	23
Attitude									
Difficult to decide whether to begin studies	11	12	11	7	12	9	13	11	11
Expect to succeed with studies	49	44	42	53	55	53	47	47	50
Would have chosen same subject irrespective of variety offered	68	75	60	65	63	61	78	63	73
N	797	201	87	147	82	141	144	326	469

degree or, at least, aspired to do so. In some aspects this was rather a high figure, as these students must have seen from the information they received, that only a limited number of the A-level subjects and very few of the B-level courses could be combined to make up a complete degree programme. This indicates that distance education has a rôle as the "gateway" to studies in another form, but it also raises the question of the variety of subjects offered. We shall return to this when we discuss the explicitly expressed wishes of the students.

The greater number of students (61 %) said, however, that they intended to study single subjects.

There were no sex differences in the answers to this question, whereas in other subgroups, the differences were very noticeable. It could be said that students most anxious to obtain a full degree were those who were younger, those who had secondary school education only, and those who had chosen to study subjects in the areas of administration and economics.

From this, we can see that age is a decisive factor. That is to say, the younger the student, the more likely it is that he or she will aspire to take a degree. Educational background also plays an important rôle. Very few of those with higher education apsired to a degree and, of course, they already had one. Those without secondary school education were also less interested in obtaining a degree than those who had a secondary school education. This may imply that they are unfamiliar with university studies and wanted to feel their way first, or it could mean that they were aware that several of the subjects in the Faculty of Arts and Sciences required secondary school competence in certain subjects e.g. mathematics and English.

The follow-up and evaluation investigation carried out by UKÄ (1974) showed that an increasing number of students in the Faculty of Arts and Sciences study without the intention of taking a degree (cf. also Dahllöf 1977, Chapter 1). In the academic year 1973–1974, more than half of the newly enrolled students belonged to this category. However, as UKÄ, in their report, do not divide the students into different sub-groups, it is impossible to compare them with the distance students in this investigation.

In order to form some idea of the students determination to succeed with their studies, the following two quesitons were asked: "How well do you think you will succeed with your present course of studies?" and "Was it difficult to decide whether to apply for this course?". In all, 11 per cent answered the latter question by saying that they had difficulty in deciding whether to begin studying. There were no greater differences in the various sub-groups with the exception of the group under 25 years of age, where 25 per cent answered that they had had difficulty in making up their minds. This may be related to the fact that these students felt they had many other study alternatives open to them. They can also have begun distance studies because they were not accepted for a restricted course which was their first choice.

Half of the students were convinced they could succeed with the studies they

Table 5.4 Study goal and attitude in relation to sex, age and educational background. Per cent.

Variable	Tot.	Sex		Educational background				Age			
		M	F	No sec. school	Sec. school	Teacher	Univ.	-24	25--34	35--44	45-
Goal											
Single subjects	61	64	58	60	41	60	89	32	57	65	70
Degree (+ perhaps a degree)	25	23	24	26	39	25	6	36	25	24	21
Attitude											
Difficult to decide whether to begin	11	10	12	10	12	10	11	25	11	9	11
Expect to succeed with studies	49	55	41	47	51	39	54	54	52	47	43
Would have chosen same subject irrespective of variety offered	68	67	70	72	66	68	70	68	68	67	75
N	797	448	349	167	261	146	216	28	336	265	166

had commenced (Tables 5.3 and 5.4). As far as the students' prognosis of their own success was concerned, there were some differences between the sub-groups. For example, men were more self-confident than women, younger students more self-confident than older ones and those reading subjects in the areas of administration, social science and economics more self-confident than those studying other subjects. If, however, the group is studied with respect to educational background, we find some surprising results. We expected that the higher the educational background the students had, the more confident they would be. This was true, with one exception. Teachers expressed least self-confidence. Possibly this can be explained by the previously mentioned fact that a large proportion of teachers say that they study for general educational reasons and not because they wish to obtain extra qualifications.

Another related question was "Would you have studied the same subject if there had been more variety of distance courses?" (Tables 5.3 and 5.4). Over two thirds of the students were quite content with their choice from this aspect. The figures were somewhat higher for those reading languages and natural science subjects. In a previous investigation (Willén & Åkerström 1975) two subjects much in demand were business administration and psychology. Students studying economics and statistics also wished for courses in business administration in the

future. On the other hand, there was little demand for subjects within the Faculty of Mathematics and Natural Science. In another section of this report (Chapter 3), we have presented data from an investigation of inquirers about distance education who did not apply (Willén 1975). In this investigation, we tried to find out the reason why inquirers did not apply. About 20 per cent said it was because the subject they wanted to study was not among the available distance courses. Even this group requested courses in business administration and psychology. Psychology was not available as a distance course that year and business administration was given only at one university.

5.3 The study alternatives if distance education had not existed

We also asked the students what they would have done if they had not been accepted for distance studies. One of the purposes behind this question was to find out whether there was any possibility of a competitive situation arising between the different forms of education at university level. Observe that university education is not only organized by the university itself, but also by the free educational associations, in the form of university circles. Another purpose with this question was to see what other alternatives existed for this group of students.

Table 5.5 Study alternatives if distance education had not existed, in relation to subject area and university. Per cent.

Alternative	Total	Subject area						University	
		L	A	Ad	S	E	N	Umeå	Other
University studies									
Regular university studies	9	3	8	11	7	10	11	5	9
Decentralized university studies	8	4	8	8	6	9	4	9	7
"University circle"	14	11	8	17	7	26	8	16	12
Other	5	5	6	3	2	5	5	5	4
No alternative	64	70	66	67	63	47	68	63	65
Other studies									
Correspondence studies	11	9	6	17	6	18	8	13	10
Municipal adult education	12	15	10	16	10	9	10	11	13
Other	13	11	20	16	11	8	15	16	11
No alternative	59	62	61	50	67	60	60	54	63
N	797	201	87	147	82	141	144	326	469

Table 5.6 Study alternatives if distance education had not existed, in relation to sex, educational background and age. Per cent.

Alternative	Tot.	Sex		Educational background				Age			
		M	F	No sec. school	Sec. school	Teacher	Univ.	-24	25--34	35--44	45-
University studies											
Regular university	9	9	9	8	10	6	10	14	11	6	6
Decentralized university studies	8	6	9	8	10	11	2	11	6	8	11
"University circles"	14	15	12	19	15	14	8	8	13	15	12
Other	5	4	5	2	6	3	5	4	4	4	5
No alternative	64	63	65	63	59	66	75	50	64	64	66
Other studies											
Correspondence studies	11	15	7	17	17	7	4	36	12	7	13
Municipal adult education	12	9	16	27	9	13	4	-	12	13	13
Other	13	12	14	18	13	8	13	4	13	13	14
No alternative	59	60	58	35	57	68	75	57	59	63	55
N	797	448	349	167	261	146	216	28	236	265	166

If distance education had not been initiated or these students had not been accepted, almost two thirds of them would have had no opportunity to study (Tables 5.5 and 5.6). When the students were divided up according to educational background, students with higher education were more often found to answer that without distance education they would have had no possibility to study. A possible explanation is that people with higher education are more likely to be interested in subjects which can be studied at the university and less in subjects offered by the educational associations or municipal adult education.

When the students were divided up according to subject area, we see that distance students reading administrative subjects, more often than others, said that they would have had other possibilities of studying—the opposite situation applied for those reading social science subjects. We had expected to find differences between Umeå University and the other universities taken together. The small difference which existed, did not, however, go in the predicted direction. We hypothesized that as distances in the northern educational region were so great, compared with other parts of the country, there would be fewer alternatives to

replace distance education. This was not the case. Possibly distance education is such an attractive form of education that it has few "competitors" regardless of where people live and their proximity to other alternative study forms.

Students who said that they had other alternatives are presented in Tables 5.5 and 5.6. A total of 9 per cent would have studied at one of the universities, 8 per cent would have applied for decentralized university education, 14 per cent would have studied at one of the educational associations which organize university circles, 11 per cent would have gone in for correspondence studies and 12 per cent would have chosen municipal adult education. We would like to point out that if one looks at the regional distribution of courses available through the educational associations and decentralized university education, it is obvious that only students living in larger towns and cities have the opportunity of alternative study forms. An intensive study of this problem was carried out within the framework of this project (Tengling & Willén 1975) and was described in Section 3.5.

6. Background, frame situation and study effort

In this chapter, we have assembled information about the students which, from our theoretical standpoint, we consider important for understanding the study process. We shall also examine background, environmental and frame factors. Information about these variables was collected at the commencement of studies and on their completion. Therefore we shall switch from the results of the first questionnaire to the results of the second one in the middle of the chapter.

6.1 Social background

There are so many investigations testifying to the part played by the social and cultural environment of the home in the children's choice of education, that we need not give a detailed list of references on this subject (see e.g. Husén 1972 and 1975 for a summary).

From Tables 6.1 and 6.2 we can see that most of the parents of distance students had only compulsory education. The parents of male students tended to have lower education than those of female students. There were also variations regarding educational background and age, even though these were very small in some cases. Distance students without secondary school education were more likely to have parents with only compulsory schooling. When examining the different age groups, we see that younger students more often came from homes with less-educated parents.

Most distance students were married or cohabiting (78 %) and over half of them have children. There were minor differences in the sub-groups as regards these variables. Those studying languages and administrative subjects, teachers and those with no secondary school education were more often married or cohabiting, with the result that they also more often than other groups had children.

The results so far, agree with those from other investigations of adult students in higher education (SCB and UKÄ 1976, Szymczak 1977). There is no reason in this connection to take up space with a discussion of minor variations.

Naturally, support from the environment is an important asset when studying. In general, it may be said that husbands and wives were more positive to the students' studies than parents. However, women had more support from both categories than men. In contrast to those without secondary school education, students with secondary school competence in a strikingly large number of cases

Table 6.1 Social background in relation to subject area and university. Per cent.

Background	Total	Subject area						University	
		L	A	Ad	S	E	N	Umeå	Other
Parents' education									
Father: Compulsory school only	63	61	65	63	61	66	63	64	62
Mother: Compulsory school only	68	64	68	75	65	72	66	70	68
Marital status									
Married or cohabiting	78	81	68	86	78	73	75	79	78
Have children who need looking after	60	62	48	63	57	60	63	58	62
Positive support									
Parents positive to studies	50	52	49	48	50	50	50	46	53
Husband/wife positive to studies	67	70	65	74	67	62	63	69	67
N	797	201	87	147	82	141	144	326	469

felt that they had their parents' support. This can almost certainly be explained by the fact that the parents of students who had attended secondary school were, even at this point, positive to further education, whereas those without secondary school may have experienced less support from their families, due to their parents' unfamiliarity with studies. On the other hand, students with less previous education had more support from their partners. The differences between sub-groups on this point are extremely small. As so many of the distance students had children, it would have been interesting to hear what the children thought about their parents' studies.

6.2 Occupational situation

Seventy-eight per cent of the students worked parallel to their studies (Tables 6.3 and 6.4). This was more common for male students (89 %) than for female students (63 %). The higher education students had, the more likely it was that they worked and studied at the same time. For example, nine out of ten of those with teacher training were gainfully employed. When subject areas were compared, large variations emerged. In relation to other groups, very few students reading languages worked at the same time. We already know that this group con-

Table 6.2 Social background in relation to sex, educational background and age. Per cent.

Background variable	Tot.	M	F	Educational background: No sec. school	Sec. school	Teacher	Univ.	Age: -24	25- -34	35- -44	45-
Parents' education											
Father: Compulsory school only	63	67	57	68	65	58	60	75	62	65	60
Mother: Compulsory school only	68	75	61	78	66	63	67	68	69	72	61
Marital status											
Married or cohabiting	78	78	78	81	72	82	81	14	74	87	83
Have children who need looking after	60	59	60	59	58	69	58	7	56	82	45
Positive support											
Parents positive to studies	50	48	53	40	62	50	45	86	64	47	20
Husband/wife positive to studies	67	66	69	70	64	69	68	18	65	73	72
N	797	448	349	167	261	146	216	28	336	265	166

Table 6.3 Occupational situation in relation to subject area and university. Per cent.

Occupational situation	Total	Subject area: L	A	Ad	S	E	N	University: Umeå	Other
Employed	78	65	82	86	77	78	85	79	77
Of those employed									
Permanent position	87	89	86	92	83	81	89	86	89
At least 10 years in present job	36	46	37	32	25	35	34	37	37
Satisfied with present job	91	98	89	89	90	94	88	91	92
Employer notified	65	83	46	69	49	66	61	62	68
Of the above									
Employer positive to studies	69	83	45	69	77	62	73	68	68
N	797	201	87	147	92	141	144	326	469

Table 6.4 Occupational situation in relation to sex, educational background and age. Per cent.

Occupational situation	Tot.	Sex		Educational background					Age		
		M	F	No sec. school	Sec. school	Teacher	Univ.	-24	25--34	35--44	45-
Employed	78	89	63	77	67	90	83	57	73	82	84
Of those employed											
Permanent position	87	89	85	88	90	88	84	63	84	93	88
At least 10 years in present job	36	36	36	45	21	59	27	-	4	56	68
Satisfied with present job	91	91	92	96	91	96	91	56	93	90	94
Employer notified	65	63	70	69	73	65	59	75	62	72	61
Of the above											
Employer positive to studies	69	75	59	70	71	68	61	75	72	68	64
N	797	448	349	167	261	146	216	28	336	265	166

sisted of far more women than men (cf. Griffiths 1980). The group studying administrative and natural science subjects consisted mainly of male students and had also the larger number of gainfully employed people. There were also noticeable age differences, older students tending to be employed more often than younger ones.

A large percentage (87 %) of employed students had a permanent position. Thirty-eight per cent of employed students had held the same job for at least 10 years. The latter group mainly was comprised of teachers, those without secondary school education and those studying languages.

Of the students who were gainfully employed, nine out of ten were satisfied with their jobs. The differences between the sub-groups were small, but we should note that as many as 96 per cent of the teachers said that they were content with their jobs, a surprising fact considering several reports of dissatisfaction among Swedish teachers. Perhaps the group of teachers who further their education in this manner, constitute a special category of teachers who are satisfied with their jobs. It is also worth noting that students whose previous education did not reach secondary school level were also among those most satisfied with their present jobs.

In the answers to this question, we could also trace differences in subject area.

Here, the most apparent fact was that those studying languages are almost all content with their works.

Two thirds of the distance students, more often women than men, had informed their employers about their studies. There were very marked variations between the sub-groups, especially as concerned subject area. Students reading arts and social science subjects had seldom informed their employers. There is a reasonable explanation in the case of social science subjects. Education A3 was the subject of two of the three courses in this area. Many of the students enrolled for this subject were also students at Teachers' Training Colleges and had no employer in the traditional sense of the word. There is no obvious explanation as to why those reading arts subjects neglected to tell their employers, but it may well be that, as these subjects do not mean so much merit-wise as other distance subjects, students saw no reason to inform their employers. A large proportion of the informed employers were positive to the studies. Language studies received the most positive response and arts subjects the least positive response. Regarding educational background, employers were most positive to the studies of those with less previous education and least positive to the studies of those with higher education, but the differences were small.

The observed differences seem to be in agreement with the variations in study motives discussed earlier.

6.3 Other aspects of the frame situation

Under this heading, we shall take up a number of other factors which influence students during the course of their studies. We shall begin with the situation at the commencement of studies as regards full-time employment, number of meetings according to the study programme and the planned number of study hours per week, all of which are reflected in the answers to the first questionnaire.

Before the commencement of studies, distance students were asked how many hours per week they intended to devote to studies. Tables 6.5 and 6.6 show the number of students who planned to study at least 10 hours per week. Women are in the majority and, as we have seen that they were less confident of success, this may explain why they considered that they must spend more time at their studies.

Even educational background plays a rôle. The higher education students had when they began a course, the less time they intended to spend on studies. Only 35 per cent of those with a university background, said that they intended to spend at least 10 hours a week on studies, whereas 57 per cent of those with no secondary school education intended to do so. It may be that those with higher education considered that they had sufficient experience of studying to be able to plan their studies efficiently. It may also be that those who already had a high educational standard could not count their studies as an additional merit and therefore did not invest so much energy in them. We also know that, compared to those with less

Table 6.5 Frame situation in relation to subject area and university. Data from questionnaire 1. Per cent.

Frame situation	Total	Subject area						University	
		L	A	Ad	S	E	N	Umeå	Other
Employed students working full-time	87	77	85	93	87	93	93	84	90
Estimated study time per week									
More than 10 hours	50	56	41	53	40	50	44	46	53
Meetings at university									
Number of times	4.6	3.3	3.0	5.4	5.3	4.6	5.7	4.3	4.8
Number of days	13.2	14.4	7.8	13.1	13.0	10.4	18.0	13.1	13.7
N	797	201	87	147	82	141	144	326	469

Table 6.6 Frame situation in relation to sex and educational background Data from questionnaire 1. Per cent.

Frame situation	Total	Sex		Educational background			
		M	F	No sec. school	Sec. school	Teacher	Univ.
Employed students working full-time	89	95	73	83	85	92	96
Estimated study time per week							
More than 10 hours	50	47	53	57	55	49	35
N	797	448	349	167	261	146	216

education, students with a higher educational background more often studied for general educational reasons. If these explanations are correct, the next step in this reasoning, is that those who already had a high level of education were less motivated to obtain study points, as we shall see in a later section. Differences between the various subject areas existed, but were not so large as in the previously discussed questions. Students who had chosen to read languages, administrative subjects and economics, planned to spend more time on their studies than other students. This was to be expected in the case of students reading languages as they had been informed that the courses demanded a lot of work.

Before we analyse the information from the second questionnaire as to how the study situation turned out in practice, let us see what the students considered would be the most satisfactory arrangements regarding the number of meetings. The actual number of meetings according to the study programme has already been commented on, but is presented once again in Table 6.5.

6.4 The best way to organize meetings at the university

Tables 6.7 and 6.8 show how the students would like meetings at the university to be organized. Students answered this question before they began studies, but after they had been given information about the way their own particular course was planned. Clearly the most attractive alternative was that of 7 short meetings. In all, 42 per cent gave this answer, somewhat more men than women. Students enrolled in language and arts courses, on the other hand, preferred the idea of one long and a few short meetings. The language departments, more often than other departments, planned meetings which lasted for several days. Even natural science subjects have sometimes had long meetings, but this was not an explicit request from the students before the beginning of the course.

Table 6.7 The organization judged by students to be best at the commencement of studies in relation to educational background and university.

Organization	Total	Subject area						University	
		L	A	Ad	S	E	N	Umeå	Other
3 long meetings	10	15	10	12	4	6	8	17	5
7 short meetings	42	32	26	47	51	48	48	43	42
1 long + some short meetings	15	27	7	13	4	13	15	10	19
2 long + some short meetings	8	9	12	8	6	9	6	8	9
Other organization	10	6	18	9	16	9	10	6	13
N	797	201	87	147	82	141	144	326	469

Table 6.8 The organization judged by students to be best at the commencement of studies in relation to sex, educational background and age.

Variable	Tot.	Sex		Educational background					Age		
		M	F	No school	Sec. school	Teacher	Univ.	-24	25-34	35-44	45-
3 long meetings	10	9	11	11	11	11	7	7	8	12	11
7 short meetings	42	44	39	42	41	45	42	39	45	39	42
1 long + some short meetings	15	14	17	13	18	13	16	18	15	16	14
2 long + some short meetings	8	8	8	8	11	5	7	11	10	7	7
Other organization	8	12	8	8	8	12	12	11	10	10	11
N	797	448	349	167	261	146	216	28	336	265	166

6.5 The actual amount of time invested in studies in relation to earlier plans

We shall now see how the frame factors of employment and planned study effort, characterizing the students' situation at the commencement of studies, related to the outcome of studies according to the answers to questionnaire 2. The frame concept is sometimes used to denote an action limiting factor (cf. Dahllöf 1967, 1974, Lundgren 1972) and, indeed, we can ask ourselves what time participants had at their disposal for studies if they had a full-time job as well as commitments at home.

As we saw in Tables 6.3 and 6.4, 78 per cent of the distance students were employed at the commencement of the courses and 47 per cent of them worked full-time. Considerably more men than women were fully employed.

This fact has had a partial influence on the results in certain sub-groups. More women than men studied languages and arts subjects and we know that in these two groups there were fewer students who worked full-time. Students with higher education, i.e. teachers and university graduates, were more often fully employed than those with secondary school education or less.

As regards the time students can devote to their studies, we have tried to estimate how many other commitments students have besides the distance course. Table 6.9 shows the extent to which distance students were employed during the academic year. We have divided up the material into the categories full-time employment, part-time employment, less than part-time employment, and not employed. We can see that, in all, 65 per cent worked full-time. This was more usual for male students. The same pattern emerges when the material was dis-

Table 6.9 Gainful employment in relation to sex and subject area. Per cent.

Extent of employment	Tot.	Male						Female					
		L	A	Ad	S	E	N	L	A	Ad	S	E	N
Full-time all year round	65	87	92	90	86	79	83	31	50	43	48	43	49
Part-time all year round	11	-	-	4	5	3	2	26	28	13	25	20	6
Variations	15	11	5	5	2	11	14	28	11	17	12	26	25
Employed	91	98	97	99	93	93	99	85	89	73	85	89	80
Not employed	9	2	3	1	7	7	1	15	11	27	15	11	20
Total	100	100	100	100	100	100	100	100	100	100	100	100	100
N	797	45	36	110	42	106	109	156	46	37	40	35	35

Table 6.10 Work at home in relation to sex and subject area. Data from questionnaire 2. Per cent.

Amount of work at home	Tot.	Male							Female						
		L	A	Ad	S	E	N	Tot.	L	A	Ad	S	E	N	Tot.
None	22	38	33	40	31	39	37	37	3	7	3	-	3	-	3
Work at home															
-4 hours per week	39	40	42	33	50	36	41	39	34	43	46	33	51	46	39
5-8 hours per week	9	-	3	2	5	1	2	2	21	9	16	25	17	9	17
9-12 hours per week	4	-	-	-	-	1	-	-	11	4	3	8	-	14	8
12- hours per week	2	-	-	-	-	-	-	-	3	-	14	5	6	11	5
No information	24	22	22	25	14	23	22	22	28	37	18	29	23	20	28
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
N	797	45	36	110	42	106	109	448	156	46	37	40	35	35	349

tributed according to sex and subject area. It was, however, more common for female students to have some form of part-time work.

Only 9 per cent of the participants had no form of employment. Even here, women were in the majority.

At the commencement of studies, 78 per cent of the students said they intended to work and, on completion of studies, we see that 91 per cent actually did so.

When the students were asked about the number of hours per week they spent on occupations in the home such as housework, looking after children etc., there were naturally more women than men who said they spent more than 5 hours a week on this type of occupation (Table 6.10). However, it is important to note that 24 per cent of the students did not answer this question. This may be because it was the last question on the paper, but also because it was a "delicate" question.

It is worthwile noting that 37 per cent of the male students did not help at home at all, while the corresponding figure for female students was only 3 per cent. A mere 2 per cent of the men answered that they helped at home more than 5 hours per week. This must have given the men far greater possibilities of studying after work. To some extent, this may be compensated by the fact that women were not fully employed outside the home to the same degree.

Tables 6.11 and 6.12 summarize a number of questions which the students answered on completing of their studies and which concerned topics such as employment, study breaks and whether or not they had pursued any other form of studies.

Table 6.11 Employment and study breaks in relation to subject area. Data from questionnaire 2. Per cent.

Variable	Total	Subject area L	A	Ad	S	E	N
Employment							
Full-time - planned	68	50	70	79	67	72	79
Full-time - actual	65	43	68	78	67	70	75
Study situation							
Periodic breaks	64	70	59	65	68	62	57
Parallel studies in other subjects	28	24	36	38	32	32	15
Anticipate completing studies	63	60	69	76	61	48	69
N	797	201	87	147	82	141	144

Table 6.12 Employment and study breaks in relation to sex and educational background. Data from questionnaire 2. Per cent.

Variable	Total	Sex M	F	Educational background No sec. school	Sec. school	Teacher	Univ.
Employment							
Full-time - planned	68	85	46	64	57	82	77
Full-time - actual	65	85	40	67	55	72	71
Study situation							
Periodic breaks	64	60	69	65	66	62	63
Parallel studies in other subjects	28	29	28	36	30	27	23
Anticipate completing studies	63	66	62	61	58	65	71
N	797	448	349	167	261	146	216

All the men who planned to work full-time during the study period did so, while 6 per cent of the women with such plans, failed to carry them out.

An exceedingly large number of students have been unable to study at one time or another during the course period. Female students were in the majority here. More than every fourth student had also pursued some other type of studies parallel to the distance course. These studies were usually in the form of decentralized university education and municipal adult education, or in some cases, catching up with previous studies in another subject. Parallel studies were most

usual in the group of students with less prior education and, in relation to subject area, least usual among those reading natural science subjects.

Naturally, it is interesting to see how many students planned to conclude their studies during the academic year in question. Note that concluding studies does not necessarily imply that a student has taken all the examinations. Two thirds of the investigated group said that they intended to complete their studies during the current academic year. Here, the differences between the various sub-groups were relatively small. Nevertheless, there was a clear tendency for those with teacher training or a university education to say that they intended completing their studies in the appointed time. When the answers were studied according to subject groups, the differences were somewhat larger. We can see that only 48 per cent of those reading economic subjects intended to complete studies during the current academic year, whereas 76 per cent of those reading administrative subjects planned to do so.

What happened to the students' plans regarding the amount of time they intended to invest in studies? After the end of the distance courses, when students' were asked how much time they had spent on studies, it turned out that only 34 per cent had invested more than 10 hours per week. This figure can be compared with the 50 per cent who started out with this ambition. Almost 10 per cent more women than men spent more than 10 hours a week on their studies. Obviously, this may be related to the fact that women were fully employed less often than men, a result which we shall return to later.

First let us look at Table 6.13 and see how the amount of time planned to be spent on studies and the actual amount of time spent on them, relate to the previous educational background of the students. From the answers to the questionnaire at the end of the distance course, we can see that students without

Table 6.13 Hours per week invested in studies. Per cent.

Group	More than 10 hours per week		N
	Planned	Actual	
Total	50	34	797
Sex			
Male	47	30	448
Female	53	39	349
Educational background			
No secondary school	57	45	
Secondary school	55	34	
Teacher	49	39	
University	35	22	

secondary school education had spent 10 hours or more per week on their studies, more than twice as much as students who already had some experience of university education. The results clearly indicate that the higher one's educational background, the less time one spends on studies. Later we shall see if the variation in the amount of time spent on studies has influenced study results.

In Tables 6.14 and 6.15 we have examined the relation between the amount of time spent on studies and the extent of employment. Those working part-time devoted, on an average, slightly more time to their studies. The sex differences were very small. From the age distribution, it is clear that the older distance students spent more time on their studies, perhaps because more time had elapsed since they last studied. Looking only at those who work full-time (Table 6.16), we find that roughly 60 per cent spent between 6 and 15 hours per week on studies. Fully employed women spent somewhat more time on studies than fully employed men.

One of the aims of distance education is to provide people with opportunities for studying parallel to employment, at least part-time employment. After examining the work-load of the investigated group, we can verify that this aim had definitely been achieved. Almost all the distance students had full-time jobs and many of the women had heavy commitments at home. A large proportion of the students also pursued other studies parallel to distance studies. Two thirds of them broke studies at one time or another. Most of the students had planned to devote more time to their studies than they actually did. Considering that adult students at the universities often have full-time jobs, families and other commitments, distance studies should be very suitable for them as the scheduled teaching periods are few and spread out over a long period of time. This means that if a student is temporarily compelled to attend to other matters, it is still possible to compensate the time lost within the appointed period of course. An important question concerning all types of part-time education arises at this point. Is it reasonable to expect students to be able to pursue such studies while fully employed? According to university norms, a part-time student should spend approximately 20 hours per week on studies. One can wonder how this is possible in practice. Is it possible that the demands on part-time students have changed, in order to enable a larger group of students to cope successfully with studies? Successful participation in a course of education at an adult age depends on a number of factors, many of which have been discussed above. The life-situation of each individual is unique. Through contact with adult students, we could see clearly how factors in the immediate environment can either hinder or encourage professional work and studies. In Table 6.17, we have analysed our material according to the variables age and sex, to see if there were any differences between men and women in the various age groups (see e.g. Deem 1980b, Huston-Stein & Higgins-Trenk 1978, Westman-Berg 1979). We have already seen—and it is a well-known fact—that women between 25–40 years of age were employed outside the home far less often than men. This is undoubtedly because women of this age often stay at home to take care of the

Table C.14 Hours of study per week for male students in relation to employment, subject area and university. Per cent.

Number of hours per week	Tot	Employment		Full-time Subject area						Age				University	
		Full-time	Part-time	L	A	Ad	S	E	N	-24	25-34	35-44	45-	Umeå	Other
- 5	24	24	23	32	15	28	41	27	11	29	29	24	11	25	23
6-10	42	43	40	37	55	42	41	44	40	48	42	42	43	43	42
11-15	19	20	17	10	24	23	15	16	25	19	19	21	18	19	20
16-	11	11	19	15	6	6	3	7	17	5	7	9	24	10	11
No information	4	4	2	7	-	1	-	6	7	-	4	4	3	3	4
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
N	448	383	65	41	33	97	34	86	92	21	189	149	88	178	269

Table C.15 Hours of study per week for female students in relation to employment, subject area and university. Per cent.

Number of hours per week	Tot	Employment		Full-time Subject area						Age				University	
		Full-time	Part-time	L	A	Ad	S	E	N	-24	25-34	35-44	45-	Umeå	Other
- 5	17	19	16	18	24	11	19	20	18	(86)	22	13	9	21	15
6-10	38	40	37	47	24	42	24	60	36	-	42	40	32	41	37
11-15	21	20	22	18	28	26	24	7	18	-	20	20	23	20	23
16-	17	15	21	12	20	10	24	13	19	-	10	21	29	12	23
No information	15	6	4	5	4	11	10	-	9	14	5	3	6	6	5
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
N	349	162	187	60	25	19	21	15	22	7	147	116	78	148	200

Table C.16 Comparison between fully employed men and women regarding actual hours of study per week.

Number of study hours per week	L		A		Ad		S		E		N		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
- 5	32	18	15	24	28	11	41	19	27	20	11	18	24	19
6-15	47	65	79	52	65	58	56	48	60	67	65	54	63	60
16-	15	12	6	20	6	10	3	24	7	10	17	19	11	15
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
N	45	156	36	46	110	37	42	40	106	35	109	35	448	349

Table 6.17 The students' total situation in relation to sex and age. Per cent.

Situation	Age -24 M	-24 F	25-34 M	25-34 F	35-44 M	35-44 F	45- M	45- F	Total M	Total F
Married or cohabiting	9	33	73	78	89	84	88	73	78	78
Have children who need looking after	5	17	55	58	79	84	53	33	59	60
Parents positive to studies	82	100	63	74	49	57	33	16	48	53
Husband/wife positive to studies	22	67	72	75	77	76	79	72	65	69
Employed	55	50	86	57	98	62	92	74	89	63
Full-time	83	67	96	75	95	75	96	67	95	73
Part-time	-	-	1	25	1	25	2	24	5	27
Housewife/man	-	17	1	28	-	24	-	10	-	22
Anticipate succeeding with studies	50	67	60	42	56	36	47	40	56	40
Plan to study more than 10 hours/week	55	67	46	49	47	55	50	65	47	53
Actually studies 10 hours/week	24	-	26	32	33	46	43	56	55	41
Have studied without a break	20	-	18	9	25	12	30	16	23	11
Have had no parallel studies	71	67	70	72	72	71	69	65	63	59
Time spent on work in the home 5 hours or more/week	-	67	11	58	5	53	-	29	6	50
Time spent on work in the home 9 hours or more/week	-	-	1	20	-	13	-	-	-	13
N	22	6	187	149	151	114	88	78	448	347

children. The findings of our investigation strongly support this interpretation (see also McIntosh 1978b). A marked increase in the professional activity of women was seen first after the age of 45. Age variations were almost non-existent for male students, with the exception of the group under 25 years of age. Among the employed students, almost all the men worked full-time, while a quarter of the women worked part-time. We should remember also that a large number of the women worked as teachers, which means that their scheduled working hours were fewer than those of most fully employed people. A consequence of this was that women in all age groups spent much more time than men on work within the home. Men between 25 and 34 years of age seemed to be those who spend most time on work at home. Because of the nature of our material, we cannot obtain

clear proof that the women in our investigation devoted more time to the children and families than men, but there were strong indications that this was the case. Considerably fewer women than men were able to study without interruption during the period in question, which agreed with our previous hypothesis about the social rôle of women as regards the family. It appears that both men and women were strongly supported in their educational strivings by people in their environment, women under 45 years of age receiving more support than men from their parents. But as far as belief in one's own ability to succeed with studies went, men over 25 demonstrated far more self-confidence than women. Only 36 per cent of female students between 35 and 44 believed that they would succeed with their studies. Women over 35 also planned from the beginning to spend more time than men on their studies, although in no case did students manage to adhere to their plans. In order to obtain reliable information about the life-situations of our students, supplementary methods of investigation would need to be used. Interviews would probably have yielded valuable data, but were not possible for financial reasons. However, the answers given by the students to the open questions we put to them, helped us to find some explanations for our results.

7. Study behaviour and attitudes

The most important part of this evaluation is without doubt the section dealing with participants' attitudes to distance education as a whole, as well as their opinions of the organization of their particular course and the methods used there. As stated earlier, we have tried to obtain as complete a picture of distance education as possible and, therefore, follow a general evaluation model which takes up in turn frames, processes and results. Thus, it has been our aim to make the evaluation a multidimensional one.

In this section we shall concentrate on the situation and needs of the target-group during the period of their distance studies. These results will be seen in the light of the information presented in the previous sections of this report.

7.1. General attitudes to distance education

At the end of the distance courses, participants were asked to complete a questionnaire (questionnaire 2), in which a number of questions dealt with various aspects of the distance method.

In Tables 7.1 and 7.2 we see that practically all the students were extremely satisfied or fairly satisfied with distance education as a study form. The differences between sub-groups is marginal.

The tables below also tell us the number of students who considered that meetings were a valuable asset. Even on this point, two thirds of the students gave a positive answer. Students with a lower educational background were somewhat more positive to meetings than those with teacher training or a university background.

The subject areas involved in distance education exhibit different patterns regarding the number and length of meetings, but there is nothing to suggest that any particular model is more preferable than others. The students most positive to meetings were those reading natural science subjects. This is logical, as these subjects include laboratory experiments which can be carried out only during meetings. The group which read administrative subjects were also more positive to meetings than other groups. Even these subjects included a lot of practical work during the meetings at the university. We see that the groups which were most positive to the meetings were also those most positive to distance education as a study form. A combination of methods including direct contact between student and teacher is found at a number of other schools. In an investigation of 33 Euro-

Table 7.1 General attitude to distance education as a whole and to meetings, in relation to subject area and university. Per cent.

Attitude	Total	Subject area L	A	Ad	S	E	N	Umeå	Other
Satisfied with distance education									
Very satisfied + Fairly satisfied	90	91	92	94	86	85	88	39	89
Meetings									
Have been worthwhile	77	75	80	82	74	72	83	77	78
N	797	201	87	147	82	141	144	326	469
Meetings									
Number of times (M)	4.6	3.3	3.0	5.4	5.3	4.6	5.7	4.3	4.8
Number of days (M)	13.2	14.4	7.8	13.1	13.0	10.4	18.0	13.1	13.7

Table 7.2 General attitude to distance education as a whole and to meetings, in relation to sex, educational background and age.

Attitude	Tot.	Sex M	F	Educational background No sec. school	Sec. school	Teacher	Univ.	Age -24	25- -34	35- -44	45-
Satisfied with distance education											
Very satisfied + fairly satisfied	90	88	90	92	89	89	89	86	87	92	90
Meetings											
Have been worthwhile	77	79	76	82	81	72	73	75	74	80	82
N	737	448	349	167	261	146	216	28	336	265	166

pean correspondence schools and Open University, Bååth (1976) found that in 27 cases, direct contact between teacher and students was built into the method of teaching.

Wångdahl (1977) studied a number of investigations and made an inventory of the existence of student-teacher contact and its significance for students. These investigations are extremely relevant for us, but unfortunately, the majority of them have such a high percentage of drop-outs that the results are difficult to interpret

and generalize. However, we can conclude that the majority of students in these investigations experienced direct contact with the teacher as a positive factor.

7.2 Teleophone contacts with teachers and other contacts during distance studies

An educational form like distance teaching, naturally requires that students and teachers, as well as the students among themselves, maintain contact during the periods between meetings. One way of doing this is by making use of the telephone (Ahlm 1972, Fransson & Thång 1978). The telephone is not used so much for this purpose in other countries as it is an expensive aid. Tables 7.3 and 7.4 present students' opinions of telephone contact between student and teacher. Seventy-two per cent of the students called their teacher at one time or other, but only 35 per cent said that the teacher had called them. Here there were differences between the sub-groups. Firstly, students at Umeå University called their teachers more than students at other universities. This may be because Umeå Univesity strongly emphasized the telephone service in its information to the public about distance education. As regards subject area, students reading administrative and economic subjects have more often than other students called teachers in order to discuss problems.

Table 7.3 Telephone contacts with teacher and other contacts during studies, in relation to subject area and university. Per cent.

Form of contact	Total	Subject area						University	
		L	A	Ad	S	E	N	Umeå	Other
Contact between students									
Have had someone to discuss study problems with	41	39	39	52	33	38	44	42	41
Have worked together with another student	33	29	30	50	16	33	33	38	29
Telephone contact with teacher									
Called teacher on occasions	72	70	68	81	70	77	65	77	69
Percentage of occasions help was received	78	83	85	98	84	78	78	77	83
Teacher called	35	29	10	54	77	24	24	41	31
Percentage of occasions help was received	72	72	89	62	79	62	91	75	70
N	797	201	87	147	82	141	144	326	469

Table 7.4 Telephone contacts with teacher and other contacts during studies, in relation to sex, educational background and age. Per cent.

Form of contact	Tot.	Sex		Educational background				Age		
		M	F	No sec. school	Sec. school	Teacher	Univ.	-24	25--34	35--44	45-
Contacts between students											
Have had someone to discuss study problems with	41	42	40	42	35	42	48	29	44	42	38
Have worked together with another student	33	34	32	37	30	32	34	25	34	34	31
Telephone contact with teacher											
Called teacher on occasions	72	71	74	75	70	79	67	75	70	72	76
Percentage of occasions help was received	78	77	83	86	76	75	86	84	83	85	86
Teacher called	35	34	36	38	32	34	36	21	36	32	40
Percentage of occasions help was received	72	65	78	67	75	82	67	67	75	68	75
N	797	448	349	167	261	146	216	28	336	265	166

Women have used the telephone somewhat more often than men and as far as educational background was concerned, it was above all teachers and those with no secondary school education who made most use of the service. Students in the two extreme age groups, i.e. those under 25 and those over 45, called their teachers slightly more often than other students.

It was far more uncommon for the teacher to take the initiative to call the student. Only 35 per cent of the students said that their teachers called them at some point during the course to see "how things were going". However, we should point out that the telephone service was not organized in the same way at all the participating departments. A few departments decided at the commencement of the course, that the teacher was to call the students from time to time. Nevertheless, the initiative to telephone contact mostly rested with the students. There were inter-subject differences in this variable. For example, only 10 per cent of the students reading arts subjects were called by their teacher, in contrast to students reading social science subjects, 77 per cent of whom were contacted by telephone. Education A3 was included in the latter group and we know that one of the

teachers in the department, systematically called students during the entire courses. This probably affected the results in this group. Concerning educational background, we cannot see any signs of an attempt on the part of teachers to give special support to students with less previous education through telephone contact.

Most of the students who called their teachers when they had problems, felt that they had received help. This applied above all to students reading administrative subjects.

Of those who received a call from their teachers, 91 per cent said that these calls were a help.

To illustrate further the rôle of the telephone in distance education, we shall present more detailed information from six departments at Umeå University. During the Autumn term 1974, we asked six departments (labour-market and personnel administration, English, economics, physics, education and statistics) to record every telephone call on a special form. This information is compiled in Table 7.5. The average number of calls per student varied between 1.7 and 6.2. Education had the least number of calls and physics the largest number of calls. The total number of minutes spent on the telephone during the term also varied from subject to subject. Even here, education came last on the list, closely followed by English. Our main reason for asking the departments to keep a record of their calls was to get some idea of the type of problems dealt with by telephone.

Together with a group of teachers, we arrived at four categories of problems, namely:

Problems of study technique	(T)
Subject specific problems	(S)
Practical problems	(P)
Other problems	(O)

This classification seems to be an adequate one, as very few problems (5 %) fall under the heading of "other problems". Which category a problem should belong to was decided by the teacher receiving the telephone call. Over 80 per cent of the calls concerned subject specific and practical problems. The remaining 10 per cent dealt with questions of study technique. The question was how to define the difference between problems of study technique and subject specific problems. Probably in some cases, problems of study technique could have been classed as subject specific. The results suggest that this may have applied to economics and statistics. The subjects differed regarding the distribution of practical problems as well as the distribution of subject specific problems and problems of study technqiue. Economics and education mostly took up practical problems with their students, whereas the other four subjects largely discussed subject specific problems and problems of study technique. Flinck (1978) obtained similar results (see Chapter 1).

During interviews with teachers involved in distance education, it emerged that

Table 7.5 Telephone contacts in six subjects at Umeå University.

	Economics	English	Labour market & personnel admin.	Statistics	Physics	Education
Number of persons	35	26	27	36	14	23
Caller						
Student	151	38	82	135	17	29
%	(92.1)	(64.4)	(73.9)	(66.8)	(19.5)	(76.3)
Teacher	13	21	29	67	70	9
%	(7.9)	(35.6)	(26.1)	(33.2)	(80.5)	(23.7)
Total number of calls	164	59	111	202	87	38
Average number per person	4.7	2.3	4.1	5.6	6.2	1.7
Total number of minutes	1726	483	1504	3040	1195	473
Minutes per call	11	8	14	15	14	12
Minutes per person	49	19	56	84	85	21
Reason for call:						
T 67 10	-	25	17	1	15	9
%	-	(43.4)	(15.3)	(0.5)	(17.2)	(23.6)
S 283 41	39	11	44	125	45	19
%	(23.8)	(18.6)	(39.6)	(61.9)	(51.7)	(50.0)
P 313 45	124	23	47	70	25	24
%	(75.6)	(39.0)	(42.3)	(34.7)	(28.7)	(63.2)
O 35 5	5	-	9	9	6	6
%	(3.1)	-	(8.1)	(4.5)	(6.9)	(15.8)
698 100						

T = Problems concerning study technique

S = Subject specific problems

P = Practical problems

O = Other

during the first weeks of a course, problems were often of a practical nature. Later on during the course, they became more subject-oriented. From the students' point of view, it would seem best if almost all practical questions could be dealt with at the beginning of the term or via circulars from the university. Telephone contact could then be reserved for giving the students support in their work with the actual teaching material. We believe also that a call from the teacher encourages and motivates students. This activity would ensure that even those who lagged behind in their studies for various reasons, kept in contact with their teacher.

Tables 7.3 and 7.4 include two questions about the contact between students during the course. Forty-one per cent said that they had had someone to discuss their study problems with and 33 per cent said that there had been a certain amount of cooperation between participants. Thus, a relatively large proportion of students had had no contact with others regarding their studies. It would have been interesting to compare the answers of our students with those of other groups, e.g. university students studying full-time or part-time at evening classes. It would be wrong to assume that all these students have contact with fellow-students or others with whom they can discuss their studies.

While on the subject of students working together, we should mention certain differences between the presented groups. For instance, students at Umeå University cooperated more than other distance students, despite the fact that they may live far apart. One of the distance students interviewed in Spring 1975, lived in Malmberget and worked together with a student who lived in Kiruna. The distance between them was 130 kilometres, but it did not seem to be an obstacle.

Students reading administrative subjects had more contact than other groups with fellow-students and other people with whom they could discuss their study problems. Some of the subjects in this area entailed a considerable amount of group-work, which meant that students were encouraged at an early stage by the teachers to work together. On the other hand, our material showed very few signs of cooperation between students reading social science subjects.

Contact between students and between student and teacher will be taken up for further discussion later on in this report in connection with the analysis of other questions.

7.3 Other distance-overbridging aids

Table 7.6 shows how often the various distance-overbridging aids were used as well as which aids students would have liked to see used more. It is quite obvious that the aids used most often, have been in the form of written material such as written study guides to text-books, self-check assignments, assignments to be sent in and written study guides. The next most used aid was the telephone and it is this aid which students would primarily have liked to see used more often in distance education. Approximately one third of the students would have liked an increase in the use of the previously mentioned aids as well as the telephone and personal letters. These results should be seen in relation to the current use of these aids.

Not many students requested the increased use of technical aids such as the conference telephone or the telecopier. These two aids were used very little.

The answers of the various sub-groups to this question are presented in Tables 7.7 and 7.8. We should mention that while tape-recorders were mainly used in languages and administrative subjects, it was students reading administrative,

Table 7.7 Summary of main results concerning distance overbridging aids. Ranking order and per cent.

	Use Rank	%	Increase Rank	%	N
Written study guides to textbooks	1	84	3	27	111
Self-check assignments	2	76	6	24	100
Assignments to be sent in	3	73	7	23	96
Study guides	4	66	2	28	94
Telephone	5	62	1	32	94
Study letters	6	44	8	13	57
Tape recorder	7	36	5	25	61
Personal letters	8	32	4	26	58
Conference telephone	9	7	9	12	19
Telecopier	10	1	10	4	5

economic and social science subjects who would most have liked to see these aids used to a greater extent.

The telephone was used especially often in the areas of administration and social science and it was here that the demand for increased use of the telephone was greatest.

Students with a lower educational background more often tended to ask for increased use of the following aids: personal letters, telephone, conference telephone, written study guides, written study guides to textbooks and tape-recorders.

Women were seen to desire more use of aids increasing the amount of personal contact between students and teacher. In contrast to male students, they would have liked an increase in the use of personal letters and the telephone, but seldom in the use of tape-recorders and conference telephone.

There was a consistent tendency to desire more taped lectures with increasing age, whereas younger students wanted more written study guides to text-books and more assignments to be sent in. We shall now look at another question dealing with different components in distance teaching from the point of view of their importance for the students.

Let us first say that the significant fact here, is not the absolute size of the percentages, but the relation between the different components and the subgroups. The information in Tables 7.9 and 7.10 can be seen largely in relation to Tables 7.7 and 7.8.

It is apparent that students experienced their most important needs as being connected with the variety of available subjects and not, as one might have expected, with the different methods and aids characterizing this form of education.

Table 7.7 Distance overbridging aids. Actual and desired use in relation to subject area and university. Per cent.

Aid	Total	Subject area						University	
		L	A	Ad	S	E	N	Umeå	Other
Personal letters									
Used often + sometimes	32	35	30	25	54	27	27	33	31
Increased use desired	26	29	28	29	29	28	15	25	26
Study letters									
Used often + sometimes	44	48	21	37	44	41	59	38	47
Increased use desired	13	11	12	18	15	16	8	15	12
Tape recorder									
Used often + sometimes	36	81	1	51	14	-	24	33	37
Increased use desired	25	21	18	37	30	27	19	26	25
Telephone									
Used often + sometimes	62	65	44	71	73	63	56	64	62
Increased use desired	32	30	30	34	41	20	32	35	29
Conference telephone									
Used often + sometimes	7	7	1	15	6	1	7	5	9
Increased use desired	12	7	11	21	18	11	6	13	11
Written study guides									
Used often + sometimes	66	69	46	81	82	68	45	61	70
Increased use desired	28	26	29	29	26	35	24	28	28
Written study guides to textbooks									
Used often + sometimes	84	87	73	90	84	84	77	81	86
Increased use desired	27	22	29	36	24	28	23	30	24
Assignments to be sent in									
Used often + sometimes	73	92	39	62	94	66	72	67	84
Increased use desired	23	17	26	26	21	36	15	28	19
Self-check assignments									
Used often + sometimes	76	72	88	82	85	69	66	74	76
Increased use desired	24	19	13	30	20	30	28	26	23
Telecopier									
Used often + sometimes	1	-	-	1	1	2	-	1	1
Increased use desired	4	2	5	8	5	4	1	5	3
N	797	201	87	147	82	141	144	326	469

Table 7.8 Distance overbridging aids. Actual and desired use in relation to sex, educational background and age. Per cent.

Aid	Tot.	Sex		Educational background				Age			
		M	F	No sec. school	Sec. school	Teacher	Univ.	-24	25-34	35-44	45-
Personal letters											
Used often + sometimes	32	32	31	38	26	39	30	25	31	31	36
Increased use desired	26	23	30	31	31	23	18	18	29	27	21
Study letters											
Used often + sometimes	44	50	36	39	47	41	44	65	47	41	36
Increased use desired	13	10	13	14	16	12	9	11	14	13	12
Tape recorder											
Used often + sometimes	36	30	43	34	39	34	32	18	31	40	40
Increased use desired	25	27	23	30	25	28	20	14	24	26	28
Telephone											
Used often + sometimes	62	60	66	65	64	66	58	57	65	62	61
Increased use desired	32	28	37	36	39	29	20	36	35	30	27
Conference telephone											
Used often + sometimes	7	6	7	8	6	4	9	-	7	8	8
Increased use desired	12	14	9	18	12	8	8	7	13	13	10
Written study guides											
Used often + sometimes	66	66	65	66	67	61	68	75	67	64	64
Increased use desired	28	28	28	36	30	25	21	25	31	29	23
Written study guides to textbooks											
Used often + sometimes	84	85	82	86	84	82	82	78	85	84	82
Increased use desired	27	29	25	35	26	26	22	32	28	26	23
Assignments to be sent in											
Used often + sometimes	73	70	77	70	75	76	72	68	73	74	72
Increased use desired	23	23	23	25	23	21	22	43	24	22	19
Self-check assignments											
Used often + sometimes	76	74	77	75	72	78	78	54	74	81	73
Increased use desired	24	24	24	23	26	23	23	25	28	22	20
Telecopier											
Used often + sometimes	1	1	1	2	1	-	1	-	1	-	1
Increased use desired	4	4	3	7	4	3	3	-	7	2	2
N	797	448	349	167	261	146	216	28	336	265	166

Table 7.8 Factors judged to be important for the functioning of distance education in relation to subject area and university. Per cent very important + important

Factor	Total	Subject area						University	
		L	A	Ad	S	E	N	Umeå	Other
Greater variety of 20 point courses	78	67	84	90	84	80	70	80	77
More 40 point courses	63	54	69	69	63	69	60	61	64
More 60 point courses	31	35	34	29	30	34	23	33	30
Greater variety of short courses	34	24	35	35	52	28	45	32	36
Longer study period	22	31	23	17	22	22	15	20	24
Shorter study period	10	10	4	10	11	11	11	8	10
More meetings	31	29	29	34	39	39	19	26	34
Fewer meetings	3	3	8	3	5	2	2	5	3
Study circles	36	39	39	32	47	41	24	41	33
Visits from teacher	8	10	6	9	14	6	2	9	7
Postal contact	48	50	36	43	58	54	46	46	50
Telephone contact	46	46	31	52	52	58	37	48	46
Study technique	43	50	51	42	44	40	35	41	45
Study guidance	43	44	39	49	50	39	38	41	45
Taped lectures	51	68	45	52	54	44	35	49	53
Distance radio	30	31	34	28	38	28	26	31	30
Distance TV	29	29	34	24	35	31	25	31	27
N	797	207	87	147	82	141	144	326	469

The foremost request of the total group of students, was for a better variety of courses. Above all more 0—20 point courses are desired, but even 20—40 point courses would have been appreciated by many. The need for different courses typically and understandably differed between the educational groups. Those with lesser education mainly request more courses at the 0—20 point level while those with higher education would have liked to see more courses at a higher level. Forty-two per cent of students with prior university education desire courses at the 40—60 point level.

Even in subject area, we can trace differences between the groups. Ninety per cent of the students reading administrative subjects requested more 0—20 point courses. We know already that these students, more often than others (with the exception of economics students) intended to take a full degree. In this light, it is

Table 7.10 Factors judged to be important for the functioning of distance education in relation to sex, educational background and age. Per cent very important + important.

Factor	Tot.			Educational background				Age			
		M	F	No sec. school	Sec. school	Teacher	Univ.	-24	25-34	35-44	45-
Greater variety of 20 point courses	78	81	74	82	80	77	71	79	81	78	73
More 40 point courses	63	64	61	53	68	59	67	68	67	66	48
More 60 point courses	31	28	35	24	32	31	36	29	31	31	29
Greater variety of short courses	34	38	31	31	32	32	42	40	37	31	33
Longer study period	22	19	26	23	18	23	26	14	24	20	24
Shorter study period	10	10	10	7	13	10	9	18	11	10	6
More meetings	31	31	31	35	35	39	19	43	31	30	32
Fewer meetings	3	3	4	2	4	1	6	-	5	3	2
Study circles	36	34	40	40	36	39	33	46	38	34	34
Visits from teacher	8	9	7	14	5	6	5	7	9	8	6
Postal contact	48	46	50	51	53	47	41	50	49	50	41
Telephone contact	46	42	53	48	54	44	39	46	47	50	38
Study technique	43	42	46	57	47	46	27	39	43	41	48
Study guidance	43	37	61	53	52	39	28	64	48	41	33
Taped lectures	51	47	56	48	55	55	46	32	49	52	54
Distance radio	30	31	30	28	26	35	31	18	30	30	32
Distance TV	29	29	28	31	26	35	25	22	27	28	32
N	797	448	349	167	261	146	216	28	336	265	166

logical that they should have a pronounced need for more distance courses.

A third of the total number of students would have liked more short courses to be available as distance courses. There were already a number of 8—10 point courses but the need was apparently greater. This request was made mainly by those reading social sciences and natural science subjects, but even by those who already had a university education.

The use of aids with a feedback effect was much in demand. These aids included the telephone, letters and study-circles. Almost one third of the students also asked for more meetings, despite the already widespread use of meetings. Students reading natural science subjects were less likely to ask for more meetings, which can be explained by the fact that these subjects already made most use of meetings, both as regards number and length.

We know also that students reading natural science subjects were extremely positive to the meetings which had been held during the past year (Tables 7.1 and 7.2). This suggests that many students might find more closely spaced meeting or longer meeting an advantage. Observe that students with prior university experience were less likely to request longer meetings than those with other educational backgrounds.

Among the "feedback components", radio and TV were given as alternatives. If we look at the aids which students requested, we see that they seldom asked for radio and TV, but preferred study circles, postal contact, telephone contact and taped lectures. These are interesting and noteworthy results, considering the recent discussions in Sweden and other countries on the importance of these media in distance education (cf. SOU 1975:72 and Holmberg 1977). We must admit that the results of our investigation do not provide much support for this type of distance-overbridgning aid. From our interviews with a number of distance students, it emerged that TV and radio programmes were not popular because they were broadcast at set times and the majority of those following the courses were not free to watch or listen. Some students pointed out that it was uneconomical to use TV and radio programmes. If so much money was available, it would be better used to improve the written material and increase the number of taped lectures.

During the Spring term 1974, a 20 minute programme called "Distance Minutes" was produced in collaboration with TRU and broadcast especially for the distance students at Umeå University. We shall quote briefly some of the opinions which emerged during the evaluation of the programme (Willén 1974). A questionnaire was sent out to the students, but the response frequency was very low. In general, we can say that the students who did answer the questionnaire (N=179) were not particularly satisfied with the programme. One of the reasons for the large number of drop-outs may have been the fact that students did not find the programmes meaningful and therefore did not bother to answer. The following were some of the views expressed about the programmes:

- Programmes (20 minutes) were too short. There was too little time for each subject and it could take several weeks before a subject got a chance to feature in the programme again.
- Only factual information should be given. Lectures in own subjects area wanted.
- A different transmission time, preferably weekday evenings.
- Repeat programmes, to avoid missing a programme.

On the basis of this investigation, we can conclude that radio and TV do not seem to be suitable methods for the Swedish distance model, partly because of the small sizes of our groups. Open University in England have had very much the same experience regarding radio (Bates 1976, Gallagher & Marshall 1976).

In Tables 7.9 and 7.10, there are further asepcts of the distance method which

need commenting on, namely the need for study technique and study guidance. A total of 43 per cent of the students considered that more importance should be placed on these aspects. Here students with a lower educational background were in the majority. Women would have liked increased study guidance twice as often as men and the younger the students were, the more they felt the necessity of study guidance. This is quite understandable as these two groups contained the largest number of unemployed students.

Naturally it would be difficult for each department to increase the amount of study guidance for distance students. Instead, this ought to be a task for the central study guidance office, which has a better grasp of the total situation. The central guidance office would require plenty of information about the special situation of distance students and how distance teaching functioned in the different subjects (Teaching for the Open University 1977). The increased need for study technique is an entirely different question, which each department must deal with separately and integrate into the material specially produced for distance teaching (see Marton, Dahlgren, Svensson & Säljö 1977).

The above questions have given a good picture of how distance education functions and which aspects need working on, in order to better the method. The problem is that it will never be possible to create a single, ideal distance model as so many factors influence the functioning of this form of education.

Examples of these factors are the structure and content of the subject, as well as student characteristics such as previous educational background and age. We have seen that, in spite of a large measure of agreement between the sub-groups in our investigation, there are some groups, such as those with less education, which have special needs and wishes. When planning distance teaching, it is important to take into consideration the particular target-groups for this form of education.

7.4 The rôle of the teacher

Teachers involved in distance education have somewhat different assignments than usual. A large part of the teachers' working hours are devoted to tasks which are uncommon in traditional forms of education, e.g. communicating with and supervising students via telephone and letter, producing new teaching material or modifying existing material. Compared with traditional education, less time is spent in face-to-face teaching. As we have seen previously, the amount of time scheduled for face-to-face meetings at the university varied from subject to subject. We also know that the number of teachers at the department participating in distance education varied.

In the questionnaire sent to the students at the end of their studies, they were asked how teachers in general had handled the situation and its demands. On the whole, students appeared satisfied with their teachers as regards their ability

– to structure lessons well
– to be well prepared
– to give explanations on the students' level
– to be able to involve the students in the subject
– to keep to the subject
– to establish a good contact with the students and
– to give the students opportunities to ask questions during the lessons.

This can be interpreted as meaning that teachers really prepared and conducted their lessons well. On the other hand, when we look at the rest of the alternatives, the picture becomes more complex (Tables 7.11 and 7.12).

Less than one tenth of the students considered that the teachers succeeded in relating theory to practice and in giving examples from everyday life. This criticism stemmed, above all, from those reading economic subjects and those with less prior education. The younger the student, the stronger the criticism which may be explained by the fact that these students had comparatively little experience of their own to draw on.

Almost half the students were dissatisfied with the teacher's ability to communicate study technique. This criticism more often came from the younger students and from those reading administrative and natural science subjects. Naturally, it is a very serious criticism, indicating a weakness in the method. It is, however, a difficult question (cf. Norinder 1963) as we cannot be certain what the students meant by study technique. The interpretation which first springs to mind, is that the teachers have not explained to the students during meetings, how to work through the course, i.e. the text-books. A related alternative is "gives help in preparing for examinations". Fifteen per cent of the students did not think their teachers had done this. Possibly participants who were critical towards their teachers on these points, believed that the teacher could have communicated certain "tricks" which would have simplified their work. This was unlikely to be the case. Elements of study technique naturally should be integrated into both the teaching situation and the written material. How this can be done depends on the construction of the subject, but may even be dependent on the qualities of the students. This is a broad and interesting question, not just for distance education, but for all university education. It seems likely that the answers referred to study technique in its broadest sense and included questions of planning (cf. Norinder 1963). The pattern of answers to an open question presented later in the report suggested that this was the case.

An alternative of quite a different nature is "can give information about current research". A large proportion of the students (32 %) did not consider that the teacher had been able to do this. It was mainly the younger students who criticized this failure on the part of their teachers. There are differences between subject groups, those reading administrative and social science subjects having been less critical on this point.

Table 7.11 Attitude to teacher's pedagogical ability in relation to sex, educational background and age. Percentage answering "seldom + never" to the question of whether the teacher succeeded with different tasks.

Task	Total	Sex		Educational background				Age			
		M	F	No sec. school	Sec. school	Teacher	Univ.	-24	25-34	35-45	45-
1	3	3	3	2	1	4	6	-	4	2	1
2	1	1	2	1	-	2	3	-	3	2	-
3	1	2	1	3	1	1	1	4	2	1	1
4	3	2	5	4	3	4	3	4	2	2	1
5	9	10	7	15	8	5	6	4	10	8	6
6	8	11	5	13	7	6	7	18	10	6	5
7	-	-	-	-	-	-	-	-	-	-	-
8	1	2	1	3	1	1	3	7	3	1	1
9	16	16	15	15	13	14	22	14	19	15	10
10	15	13	19	15	17	16	15	7	17	16	14
11	46	46	43	47	44	46	44	53	46	48	38
12	3	3	4	5	2	3	3	4	3	3	4
13	32	31	34	31	33	26	22	43	37	30	23
N	797	448	349	167	261	146	216	28	336	265	166

1 = Gave well structured lessons
2 = Lessons were well prepared
3 = Gave explanations on the students' level
4 = Could interest students in subject
5 = Could relate theory to practice
6 = Gave examples related to reality
7 = Kept to the subject
8 = Established good contact with students
9 = Could stimulate active participation in discussions
10 = Gave help in preparing for examinations
11 = Taught study technique
12 = Gave students a chance to ask questions
13 = Gave information about current research

Research within the university is meant to form a basis for teaching but this requirement is difficult for the individual teacher to fulfill. It is not easy to keep informed about all the research going on in one's own subject, but the problem can also be related to the teacher's own previous experience of research. A teacher who has participated for some time in a research project has far more possibility of informing about current research in the area (cf. Abrahamsson 1977). This, again, is not only a problem for distance education. However, it is possible that it is somewhat greater in forms of university education such as distance education,

Table 7.13 Attitude to teacher's pedagogical ability in relation to subject area and university. Percentage answering "seldom + never" to the question of whether the teacher succeeded with different tasks.

Task	Total	Subject area						University	
		L	A	Ad	S	E	N	Umeå	Other
1	3	-	1	4	4	4	5	2	3
2	1	-	-	3	-	1	4	2	2
3	1	1	-	1	-	4	1	2	1
4	3	-	1	1	5	2	3	2	2
5	9	3	7	10	7	16	10	11	7
6	8	3	2	9	5	14	13	9	7
7	-	-	-	-	-	-	-	-	-
8	2	1	-	1	6	3	1	1	2
9	16	10	14	12	17	19	26	15	17
10	15	23	17	10	8	12	19	11	19
11	46	38	44	53	36	41	55	47	45
12	3	4	3	1	4	2	4	2	3
13	32	33	34	29	23	36	33	32	31
N	797	201	87	147	82	141	144	326	469

1 = Gave well structured lessons
2 = Lessons were well-prepared
3 = Gave explanations on the students' level
4 = Could interest students in subject
5 = Could relate theory to practice
6 = Gave examples related to reality
7 = Kept to the subject
8 = Established good contact with students
9 = Could stimulate active participation in discussions
10 = Gave help in preparing for examinations
11 = Taught study technique
12 = Gave students a chance to ask questions
13 = Gave information about current research

evening classes and decentralized university education, i.e. forms directed at professionally active students. These people have little possibility of obtaining their own information within the university as they are seldom there. One suggested improvement would be to invite research workers more often to come and describe their work. Probably, this would not solve the entire problem as, unless they are involved in research, the regular teachers would find it difficult to explain and relate the information to their own teaching.

On the whole, we can conclude that distance students were satisfied with their teachers, but the problem is that we know very little about the opinions of other university students on the same subject.

7.5 Answers to an open question about the meaning of distance education for participants

7.5.1 Main results

At the end of the questionnaire which the distance students were asked to fill in on completion of their course, there was an open question worded: "What has distance education meant to you?". By including this question, we hoped to give the participants a chance to express in their own words what the course had meant to them and also to take up topics which had not been mentioned in the questionnaire.

In the following presentation, we have included only the group which completed studies during May–June 1975, that is to say, about half the panel group. In all, this group comprised 369 people. Eighty-two per cent of the group answered the open question, somewhat more women than men (87 % and 80 % respectively). It ought to be mentioned that there were considerably more men than women in the group, 240 men and 129 women.

It was surprising that so many students answered this question as it was an open question and the last in a rather lengthy questionnaire. As 82 per cent of the students answered this question, it must be considered safe to draw conclusions from the answers. The responses can also be seen in relation to questions answered earlier in the questionnaire.

We tried to classify the answers to the open question, but this was a difficult task as several views were sometimes interwoven in the one answer. We classified the answers on the grounds of what we assumed to be the central point. This classification is presented in Table 7.13, distributed according to the following sub-groups: educational background, extent of employment and sex. When analysing this question, we had many more categories from the beginning, but we found that they could be reduced to four, three of which reflected positive experiences of distance education. When classifying the answers, it became apparent that an answer could consist of components belonging to more than one category. For this reason, the number of markings in the table exceeds the number of respondents.

The information summarized in Table 7.13 confirmed many of the previous results. A third of the answers dealt with the actual study form and why it had been especially satisfactory. A smaller percentage of the answers (12 %) were classified as dealing with the occupational importance of distance education for the students. Thus, once again we see that purely occupational motives for distance studies are not so common. Half of the answers were placed in the third category, which was of a more general nature, and included answers stating that distance studies had resulted in increased self actualization, increased general knowledge, positive contacts with fellow-students and teachers and more insight into the implications of a university education. Thus, compared to the other two,

Table 7.13 Classification of answers to the open question "What has distance education meant to you?". Per cent.

Category		Study form	Relation to job	Self-actualization, contact with others + with university	Negative to distance education	Tot	N
Educational background							
No sec. school	M	31	12	52	5	100	75
	F	24	16	54	5	100	37
Sec. school	M	31	7	59	2	100	81
	F	30	6	59	5	100	64
Teacher	M	38	16	43	3	100	32
	F	26	10	61	3	100	31
University	M	33	19	41	6	100	63
	F	48	15	36	-	100	33
Other	M	50	-	50	-	100	4
	F	100	-	-	-	100	1
Extent of employment							
Full-time	M	33	14	48	5	100	219
	F	33	13	50	5	100	80
Part-time	M	44	3	50	3	100	36
	F	31	9	56	3	100	86
Total	M	35	13	48	4	100	255
	F	32	11	53	4	100	166
Total		34	12	50	4	100	421

this category comprised answers stressing the psychological and social aspects of distance education.

There were unusually few answers (4%) taking up negative aspects. The majority of answers classed as negative even mentioned positive factors. However, we chose to place all answers mentioning anything at all negative in a fourth category.

7.5.2 Exemplification of answers

In order to give some idea of the distance students' answers to this question, we have chosen to present a number of specific examples. These examples are referred to one of the four categories presented above and will not be commented upon further. All the answers to this question are available at the Department of Education at Uppsala University (see also Willén 1978, pp. 172–179).

After each answer, the student's sex, educational background and subject area are given in brackets. The key to the abbreviations is as follows:

M = Male
F – Female

NSE = No secondary school education
SE = Secondary school education
T = Teacher training
U = University
Ad = Administrative subjects
S = Social science subjects
E = Economic subjects
A = Arts subjects
N = Natural science subjects
L = Languages

Negative answers

The following answers contain negative comments worth noting. In some cases the negative comments are accompanied by positive ones regarding other aspects of distance education.

– Distance studies have meant a lot to me *personally*, even though I have not completed them. I have been able to take part in discussions I previously derived no pleasure from. The negative sides of distance education are the long distances (geographical), the lack of fellow-students and a feeling of alienation. Perhaps I also lacked some basic knowledge (M,SE,Ad).

– Relaxation (travelling) in spite of the long journeys. Most of the literature has been interesting and informative.
Baby-sitting problems.
A lot of expense and a bad conscience for the family's sake (unfounded).
A small contribution to the hopes of getting a job (F, SE, Ad).

– A lot of trouble with a large amount of unsorted study material and little practical information; an examinaiton certificate which failed to appear and very little enthusiasm on the part of the organizers (M, SE, E).

– Constant bad conscience, but could not stop studying completely after my degree (from Finland) (F, U, Ad).

– Met new people. Aroused interest in learning, brushed up previously acquired knowledge.
Probably prefer to study full-time.
Difficult to concentrate on studies with both a job and a home to think about (F, SE, L).

– Distance studies have meant a lot to me, although the teaching at the university could have been better. Not enough lessons, resulting in a lack of study technique and information about research in the subject (M, NSE, A).

Positive answers related to study form

– I have had the opportunity to study university subjects, which was impossible for me in the form of e.g. study circles, as I continually work shifts and live a long way from the towns where study circles are organized.
This form of studies also suits me because I have had previous experience of correspondence studies at Hermods (M, NSE, E).

– A lot. After a couple of terms' unsuccessful full-time studies it feels good to see that it is possible to succeed if one is allowed to work in one's own way and at one's own pace. Distance education also opens doors for us seamen who have limited possibilities of following evening classes and the variety of courses otherwise available.
Please stress the seaman aspect when you summarize. I have a feeling it is important (M, SE, E).

– Studying at university without being separated from the home and family every day of the week seemed too good an opportunity to miss. It was like a dream come true, but that it would work as well as it did was more then I had hoped for. Everything was clearly organized with written guides to the text-books and a study-plan, so there was nothing to do but to go ahead and study. The meetings were hard work, but worthwhile and contact with other students and teachers was positive. There were very few drop-outs during the course. Distance studies are definitely a step in the right direction for those living at a distance from a university and for the handicapped.
Long live distance
We praise its existence (F, SE, Ad).

Positive answers related to occupation

– That I found a meaningful alternative to the practical work of running a home: that I gained some insight into an area I previously knew nothing about: that I met so many agreeable people: that I now have more hope of standing a better chance on the labour-market, when the time comes and that I have learned something about myself, my ability to organize, concentrate and think clearly in regard to studies (F, SE, Ad).

– The knowledge I wanted
Masses of stimulating work
Increased self-discipline
Stimulating contacts, wider perspective, fellow-students, discussions.
New job.
Besides all this, I think my three children have seen that learning things can be enjoyable and that other pleasures can willingly be forsaken. My children seem to concentrate better on their own studies now. They take them more seriously while enjoying them at the same time (F, SE, Ad).

– That I got the chance to improve my self-confidence after a period of stagnation at work.
General education.

Better qualifications.
Break in everyday routine.
Demanding work at times.
New acquaintances.
Brushing up prior knowledge to some extent (M, U, Ad).

Positive answers regarding self-esteem and contacts

- Extreme satisfaction at having attempted university studies as an adult (39 years of age). It is not as diffuclt as one would imagine. I have had the chance to get to know new friends and exchange ideas with them.
  My self-esteem increased because:
  - my boss, colleagues, friends and family admired me for daring to start a university course.
  - I saw that I got on as well as those who had more education and better qualifications.
  - I have learned more and can take part in political discussions.
  - I, who grew up in a working-class home and couldn't afford to study, have had this fantastically fine chance (F, NSE, Ad).

- University studies no longer seem so remarkable to me. I wish that everyone could have the chance to discover that most of us mortals can succeed easily with a university education. To get rid of the attitude people adopt when you say that you study at the university. Old ladies almost curtsey and old men take off their caps. Broader university education and down with one-sided recruitment. Only then will we have a society based on equality (M, NSE, Ad).

- I have been able to pursue advanced studies in a subject which interests me, parallel to my professional work. I broke off my studies when I had a family to look after (typical female situation). Thanks to distance education, I got a "taste" of studies and found that I want to go on. If I cannot get anyone to look after the children (my husband is thinking about staying at home but it is a question of economy) I shall continue at evening classes or with distance studies. Even if I start to study regularly during the daytime, I shall continue to do night-duty at the hospital. Distance studies have meant so much to me that I cannot be without them. I *have to* continue. Otherwise, life would be empty without the intellectual stimulation of studying (F, SE, S).

8. Study results

8.1 Introduction

It is always problematic to give an account of the results of university studies (Miller 1970, Black 1972). During the past ten years in Sweden, there has been an intensive debate on the subject of study results and the affiliated question of study breaks and the reasons for them (Dahllöf 1973b, Elgqvist-Saltzman & Lindberg 1973). The latter authors, for example, have shown that the study break frequency among newly enrolled students was 20 per cent after two terms. A comparative study carried out at Gothenburg University found the study break frequency to be somewhat higher, 23 per cent. Elgqvist-Saltzman (1972, p 1) says:

"What is classed as a study break, depends on the definition of study break. The number of breaks is entirely dependent on the study goal and which level of studies they are related to."

In this project, Elgqvist-Saltzman (1972, 1973) found that about 20 per cent of the group which she studied at Umeå University, had revised their plans and "changed educational programmes". This result was more or less confirmed when Elgqvist-Saltzman and Lindberg (1973) studied a new group of students. Thus, the problem is to obtain as complete a picture as possible of the number of people who study actively, as well as to try and find out what has happened to the others.

In our case, the problem was that there were no relevant investigations with which to compare our results. It would have been interesting to compare them with those of other part-time students e.g. those attending evening classes. Even though not directly comparable with our study, we shall mention a few investigations of study results.

It was found, when evaluating decentralized university education at the 0—20 point level (Franke-Wikberg, Johansson & Råberg 1972a, b), that in three of the five subject areas, the results were better than those of comparable groups enrolled in regular university education. It was also interesting to note that those over 25 years of age did better than those who were younger, and that male students did better than female students.

The results of full-time students have been investigated and, for the academic year 1969/1970 UKÄ estimated that half of the "active" students had taken 40 points by the beginning of the third term (UKÄ 1971). Later surveys of study results have yielded roughly the same figures (UKÄ 1972a). In the official calculations, active students are those who have succeeded in taking points during the study period in question. All those without points are excluded.

Elgqvist-Saltzman & Lindberg (1973) presented the study results for a group of students after one term at Umeå University. Scarcely 50 per cent had achieved 20 points during the term. One of the problems here, was that the results of those reading 40-point courses were difficult to estimate, as these courses were not usually planned so that exactly 20 points were taken each term. For this reason, those who had between 15–20 points were regarded as having succeeded with their studies. According to this criteria, 68 per cent of the group had been successful. A parallel study to the Umeå investigation, was carried out during the academic year in Gothenburg. The main result of this comparison was that the pass-rates were higher in Umeå than in Gothenburg (Dahllöf 1973).

8.2 The study results of distance education for the total group and the panel group

We have used several sources in our search for relevant information about the investigated groups of distance students, namely

- questionnaires sent to the students
- interviews with teachers
- lists of study results from each department
- information about study breaks and the reason for these, from each department

In spite of considerable efforts on our part, it was extremely difficult to get complete information in this area. We shall present here, the study results for both the panel group (N=797) and the total group (N=1548). Regarding the frequency of study breaks and the problems involved, readers are referred to Chapter 4.

In previous presentations, we have often only treated the panel group, but here we shall even, to some extent, deal with the total group. When calculating the results for the large group of 1548, we excluded those who never began their studies. We know that 176 people in this group did not enroll, and that there were 201 people who, we have good reason to assume, never began to study. In all, this makes 377 and thus the number on which we calculated pass-rates totalled 1171 students (see section 4.1).

Before we go any further, let us first establish that the pass-rate after three terms was 58 per cent for the total group and 65 per cent for the panel group. Compared with earlier investigations, these results are good (Table 8.1).

We mentioned earlier, that in the official statistics, active students are those who have succeded in taking points during a period of study. However, our active students were those comprising the panel group. This group consisted of those who had answered both the questionnaires and who said in the second one, that they are actively engaged in studies, even though they may not have succeeded in

Table 8.1 Examination frequency after 3 terms. Per cent.

Total (N = 1171)	58
Panel group (N = 796)	65 (72)
No answer	43

taking any points during this time. In all, 10 per cent of the panel group had not taken any points after three terms of study. If a strict comparison was to be made with the official statistics, these 10 per cent should be deducted. When this was done, our results were extremely good compared with those from other investigations, as 72 per cent of the active students had succeeded with their courses after three terms.

In Table 8.2, we see the pass-rates for the six subject areas. The courses were divided up according to length, so that all the 20 point courses were placed in one group, the 8–10 point courses in another group and the B-courses in a third group. The results of both the panel group and the larger group of 1171 students are given. The reason for presenting the results of the larger group was to try and give as fair a picture as possible. It ought to be noted that there were certain subjects, if only a few, whose pass-rates improved when the entire group was studied. The reason for this was, that a number of people wished to remain anonymous when they sent in the questionnaire and therefore could not be included in the panel group. Thus, the panel group was composed of students who had been active during the study period, while the group of 1171 students included those who had discontinued studies or broken them off temporarily. We have already established the fact that, as we were concerned with pedagogical questions, the panel group was the most relevant group because it represented students who actually followed most of the course. The more detailed presentation of pass-rates which follows, will therefore be based mainly on the panel group, although, at the same time, we also found it meaningful and relevant to study the larger group.

There were large discrepancies between the participating subjects, regarding the number of students who had succeeded in taking 10 or 20 points during two or three terms. The study results for each individual subject can be found in Willén (1978, appendix 4). No less than 17 subjects in the panel group and 13 subjects in the larger group had a pass-rate of more than 65 per cent. This was the result after two terms and there was a total increase of 12 per cent between the second and third terms. Languages, with the exception of German, showed low study results for both the panel group and the larger group. On the other hand, the proportion of passes in all languages, increased markedly from the second to the third term. Similar results have emerged from previous studies of the pass-rates in languages.

The lowest value for a subject was found among the 8 and 10 point courses, which suggests that the length of the course does not effect the pass-rates.

Table 8.2 Examination frequency after three terms for the panel group and the total group, distributed according to subject area and number of points. Per cent.

	Subject area Only 20 p courses						Tot. 20 p course	Tot. 8-10 p course	Tot. B-course	Tot.
	L	A	Ad	S	E	N				
Whole group										
Full points after 3 terms	52	67	65	55	52	63	59	52	54	58
Highest value for a subject	87	89	89	68	55	93	93	90	63	93
Lowest value for a subject	31	32	33	37	47	52	31	29	35	29
N	185	141	202	100	124	153	905	186	74	1165
Panel group										
Full points after 3 terms	60	72	74	63	59	70	67	60	55	65
Highest value for a subject	89	95	100	81	75	100	100	86	63	100
Lowest value for a subject	39	43	50	41	56	53	39	33	38	33
N	135	96	138	64	86	103	622	114	60	796

Despite the differences pointed out above, the average results were remarkably similar both between and within groups.

We have also studied the distribution of those who had taken a number of points, but not reached the 20 point level (see Willén 1978, p 187). We assumed that students who had taken a certain number of points e.g. even 10, were of interest to their respective departmets, as they still had the possibility of taking up their studies again and completing the course they commenced.

During the second and third term, there was a marked decrease of people with between 10 and 19 points. In consequence, there was a noticeable rise in the number of people who completed their courses during the same period. Languages, which had very low pass-rates after two terms, increased the number of points drastically from the second to the third term. After three terms, more than 10 per cent of the students had between 10 and 19 points. We shall later present the study results after five years.

8.3 Study results in relation to sex and educational background

In the following, we shall only present the study results of the panel group, as we do not know the educational background of all the students in the larger group.

During the first years of distance education, it was debated whether those with less prior education would be able to cope with university studies and especially distance studies, where students have little contact with the teacher compared with traditional university education. Since it became possible to study at the university in Sweden without so-called secondary school competence, only a very small number of investigations of this new group of students have been carried out, and very few of these have taken up study results.

In Table 8.3 we see that in our group, there were only slight differences between the four educational background groups. A somewhat higher proportion of students with teacher training and previous university studies had passed their final examination, compared with those who had secondary school education or less. When the distribution according to subject area was studied, differences emerged between the educational groups. First, we must underline that these differences did not point in any one direction. Students without prior secondary school education had somewhat puzzling results. In four of the sub-groups, they had higher results than those with previous university education. These groups were arts, administrative and natural science subjects and the group of 8–10 point courses. The results were the opposite for languages, economic and social science courses as well as for the B course in English. Here the difference between those with secondary school education or less and those with teacher training and university education was large, the two latter groups having the better results.

In Table 8.3, we have shown the pass-rates distributed according to sex. For the group as a whole there were no sex differences, but in the majority of sub-

Table 8.3 Examination frequency after three terms for the panel group distributed according to sex and educational background. Per cent for each sub-group.

Sex / Educational background	Subject area, Only 20 p courses: L	A	Ad	S	E	N	Tot. 20 p course	Tot. 8-10 p course	Tot. B-course	Tot.	N
Male	45	81	75	70	56	70	67	58	43	65	448
Female	56	96	75	57	63	74	67	63	59	66	348
No sec. school	50	87	75	64	42	88	66	69	20	65	167
Sec. school	55	67	76	69	49	65	62	51	86	62	261
Teacher	63	79	78	55	80	79	72	62	63	70	146
University	70	74	73	67	81	66	70	63	67	68	216
N	135	96	138	64	86	103	622	114	60	796	

groups we see that a larger proportion of women than men had completed their course successfully after three terms. Perhaps this could be explained by the fact that fewer women than men were employed and that those who were employed often had part-time work. On the other hand, women more often answered that they spent a lot of time looking after the home and children, work which is, however, more flexible as regards planning. Women also appeared to spend more time on studies.

Table 8.4 shows the increase of pass-rates between the second and third term, distributed according to educational background and subject area.

The pass-rate frequency of those with less prior education could have been expected to show a marked increase from the second term to the third term, as it was theoretically possible for these students to need more time to complete their studies. However, the results went in the opposite direction for most of the groups, and above all, languages at both the 0–20 and 20–40 point level.

We also present the distribution of passes with distinction. The results of an examination can be one of three grades–pass with distinction, pass or fail. The problem is that there are no general rules for where the dividing lines go (UKÄ 1972b) and each department is free to develop its own practice. In spite of this difficulty, we studied how the number of passes with distinction in the panel group were distributed according to subject area and educational background (Table 8.5).

It is interesting to note that passes with distinction were more usual in 20 point courses at both A and B level, than in the shorter 8–10 point courses. If we look at the 20 point courses which are divided into subject area, we find a number of notable differences. The natural science subjects have awarded the largest number of passes with distinction (40 %) and the social science subjects least (13 %), which may be a reflection of the different practices employed in these subject areas. With the exception of the social science subjects, it is students with previous university education who most often were awarded a pass with distinction.

Table 8.4 Increase in examination frequency between the second and third terms in relation to educational background and subject area. Per cent.

Educational background	Subject area Only 20 p courses						Tot. 20 p course	Tot. 8-10 p course	Tot. B-course	Tot.
	L	A	Ad	S	E	N				
No sec. school	+11	0	+14	+16	0	+ 7	+ 9	+6	0	+ 9
Sec. school	+25	0	+ 9	+13	+ 5	+ 6	+11	0	+17	+10
Teacher	+19	+4	+33	+ 5	+27	0	+12	0	+25	+12
University	+32	+7	+12	+13	0	+14	+13	+5	+47	+14
Total	+22	+4	+13	+13	+ 5	+ 9	+12	+3	+25	+11
N	135	96	138	64	86	103	622	114	60	796

Table 8.5 Proportion of passes with distinction after three terms, distributed according to subject area, educational background, and level of course. Per cent.

Educational background	Subject area Only 20 p courses						Tot. 20 p course	Tot. 8-10 p course	Tot. B-course	Tot.
	L	A	Ad	S	E	N				
No sec. school	21	7	12	8	19	14	14	-	20	13
Sec. school	23	17	22	25	14	40	23	19	21	23
Teacher	18	43	11	5	33	38	26	8	31	25
University	31	19	24	13	56	49	33	17	27	29
Total	23	24	18	13	20	40	24	14	25	23
N	135	96	138	64	86	103	622	114	60	796

The pass-rate is a good 10 per cent higher for subjects which started during the Spring term (see further Willén 1978, p 191). This result is in agreement with the results of several discussions emphasizing that it is more advantageous for students to begin their studies in the Spring term, as they then have the summer vacation ahead, both to catch up on the previous term's studies and to prepare for the coming term. Those starting studies in the Autumn term have not the same opportunities.

In the follow-up study, we shall return to the students' study results five years after the commencement of studies and therefore, we shall save our discussion and summary until then.

Part III

Teachers' experiences of distance education

9. Teachers' attitudes to distance education

9.1 Investigated group and method

Teachers are naturally an important factor in an evaluation which claims to give a general picture of an educational form. We mentioned earlier that we had had recurring contacts with the participating teachers. On two occassions, at the beginning and at the end of the course, we interviewed the teachers responsible for the activities. Further, during the experimental activities with distance education, a number of conferences were organized by UKÄ for these teachers. We participated in these conferences and heard many valuable points of view.

In order to obtain even more information, a questionnaire (App. 3) was sent in November 1976 to teachers who had participated in distance education. This investigation concerned teachers who had worked with any one of the 41 courses started during the academic year 1974—75. The names of these teachers had been obtained in the first interview and we had information that in all 194 teachers were to be involved in distance teaching. It turned out later that 64 teachers could not complete our questionnaire as they had not had anything to do with distance education, or only been involved for one or two lessons. This left us with a group of 130 teachers (see Table 9.1). This reduction in the number of teachers is not surprising as we collected the information about prospective teachers at an early stage. During the period following, many teachers terminated their employment at the university and took another job, because of the waning number of students. There are several such cases in our material.

After this adjustment was made, the response frequency was very high

Table 9.1 Number of questionnaires sent to distance teachers and response frequency in per cent.

	Response	Response %
Number of questionnaires sent	194	
Number sent to teachers who said they had not participated in distance education	64	
Actual population	130	
Response frequency of actual population	120	92.3

(92.3 %). Two written reminders were sent, after which those who still had not replied were contacted by telephone and requested to complete the questionnaire.

The questionnaire to the teachers concentrated on the following areas:

- the organization of the distance course
- attitude to the information given about distance education
- attitude to different aids
- attitude to distance students and contact with them
- pedagogical effects on regular teaching
- nature of the teachers' assignments
- the administrative organization of distance education as a form of higher education in Sweden.

Some of the information collected in this questionnaire has been already discussed in Chapter 2 and will therefore not be taken up here.

When analysing this questionnaire, we divided the material into different subgroups. Firstly, we have separated the teachers responsible for the course, so-called head teachers, from the others. There were 33 head teachers in our investigation. Eight of them did not complete the questionnaire in spite of several reminders. The response frequency among the head teachers was thus 80 per cent. The remaining teachers are presented in a group under the heading of "other". Tables 9.2 and 9.3 show the teachers distributed according to subject area and university. As previously established, the largest number of teachers were found in the area of natural sciences, because of the laboratory work during the meetings. This was also reflected in the distribution according to university, where Uppsala had the highest number of teachers. Uppsala gave distance courses in earth science and physics, both of which attracted a large number of teachers.

Tables 9.4 and 9.5 show how many terms teachers had worked with distance education at university level. The length of time a teacher could have worked with

Table 9.2 Distance teachers distributed according to subject area.

Teacher category	Subject area						
	L	A	Ad	S	E	N	Total
Head teachers	6	4	8	5	3	7	33
Other teachers	18	6	20	5	10	28	87
Total	24	10	28	10	13	35	120
Number of courses in subject area	9	4	8	5	7	8	41
Number of teachers per course	2.7	2.5	3.5	2.0	1.9	4.4	2.9

Table 9.3 Distance teachers distributed according to university.

Teacher category	Umeå	Upp-sala	University Linkö-ping	Gothen-burg	Växjö	Lund	Tot.
Head teacher	15	7	2	4	2	3	33
Other teachers	34	25	9	9	2	8	87
Total	49	32	11	13	4	11	120
Number of courses in subject area	17	9	4	5	2	4	41
Number of teachers per course	2.9	3.6	2.8	2.6	2.0	2.8	2.9

Table 9.4 Number of terms teachers had worked with distance education, distributed according to subject area. Per cent.

Number of terms	Total	Subject area L	A	Ad	S	E	N
1-2 terms	43	8	20	79	30	15	63
3-4 terms	44	75	60	21	10	77	37
5 terms or more	13	17	20	-	60	8	-
Total	100	100	100	100	100	100	100
N	120	24	10	28	10	13	35

Table 9.5 Number of terms teachers had worked with distance education, distributed according to teacher category and university. Per cent.

	Head teacher	Other teachers	Tot.	University Umeå	Upp-sala	Linkö-ping	Gothen-burg	Växjö -Lund
1-2 terms	27	49	43	33	53	36	54	53
3-4 terms	58	39	44	51	44	45	46	20
5 terms or more	15	11	13	16	8	18	-	27
Total	100	100	100	100	100	100	100	100
N	33	87	120	49	32	11	13	15

distance education at university level, naturally depended on when a department started distance activities. The very first course started in the Autumn term 1973. Head teachers had longer experience of distance education than other teachers and, in all, less than 50 per cent of the teachers had worked with this form of education for more than 1–2 terms. The largest number of teachers who had worked only for a short time with distance education was to be found in the administrative subject area. This can be explained by the fact that many of the subjects in this area did not start distance courses before the academic year 1974–75. The reverse held for the social science area, where many subjects started courses as early as 1973–74.

Many of the questions put to the teachers were open ones, as we wanted to give them a chance to take up aspects they themselves felt to be important. We have attempted to classify the answers and present them in tabular form, in order to give an overall picture of teachers' opinions on various matters. When classifying the answers, they often proved to consist of more than one component. Therefore, in many of the tables which follow, the number of answers exceeds the number of respondents. To illustrate further the opinions of the teachers on various matters, we have chosen to quote a number of their answers to the open questions.

After each quotation, the subject area and university to which the teacher belonged, is given in brackets. The following abbreviations are used:

L	= Languages	Um	= Umeå
A	= Art subjects	Up	= Uppsala
Ad	= Administrative subjects	Link	= Linköping
S	= Social sciences	Gbg	= Gothenburg
E	= Economic subjects	V–L	= Växjö + Lund
N	= Natural sciences		

The quotations illustrate how the various components could be interwoven. A larger sample of quotations was presented in a previous report (Willén 1978), and all the original quotations are available at the Department of Education at Uppsala University.

9.2 Teachers' attitudes to the information given to the public about distance education

In Chapter 3, we accounted for how the information to the general public was formulated and disseminated and therefore we shall not repeat these facts here.

Publicity work, in most cases, was organized by the central university administration, although sometimes the departments added supplementary information. Tables 9.6 and 9.7 show how the teachers would have liked publicity work to be organized. More than half of the teachers thought that the central administration should collaborate with the individual departments on this point. This opinion

Table 9.6 Teachers' opinion on how information about distance education should be administered, distributed according to subject area. Per cent.

Alternative administration forms	Number of teachers	Subject area L	A	Ad	S	E	N
By university administration or by each faculty	14	4	-	7	-	23	34
By the departments	7	8	-	4	10	8	9
By university administration and by the departments	53	46	80	64	40	62	40
By UKÄ + university administration + departments	18	3	20	25	40	8	9
Other alternatives	8	39	-	-	10	-	8
Total	100	100	100	100	100	100	100
N	120	24	10	28	10	13	35

Table 9.7 Teachers' opinions on how information about distance education should be administered, distributed according to teacher category and university. Per cent.

Alternative administration forms	Head teacher	Other teachers	Tot.	University Umeå	Upp-sala	Linkö-ping	Gothen-burg	Växjö -Lund
By university administration or by each faculty	21	13	14	14	16	18	31	-
By the departments	3	8	7	2	9	9	38	30
By university administration and by the departments	48	54	53	65	44	36	15	50
By UKÄ + university administration + departments	24	16	18	10	25	27	15	20
Other alternatives	4	9	8	9	6	10	1	-
Total	100	100	100	100	100	100	100	100
N	37	87	120	49	32	11	13	15

was held mainly by teachers in Umeå and by those teaching arts and economics subjects. Only 7 per cent of the total number of teachers thought that the full responsibility for publicity work should rest with the departments, although in Gothenburg and Växjö a third of the teachers thought that this would be the best solution. From the comments to this question, which 69 of 120 teachers answered,

it is clear that many would have liked the departments to handle publicity work only on condition that extra financial resources were made available. However, it is clear from Tables 9.6 and 9.7 that the most prevalent opinion was that some central authority, such as the university administration or UHÄ should be involved in disseminating information. Those who answered that UHÄ should be involved often stressed that UHÄ should be responsible for information on a national level:

– "there is a need for centrally formulated information on a national level, which could then be supplemented by more detailed information on a regional level" (Ad, V–L).

In two open questions, we tried to find out what the teachers thought about the content of the information to the public and the channels of distribution. In general, teachers were not particularly satisfied with the publicity work, above all, not with the choice of distribution channel. Only one in four teachers expressed satisfaction. Many of the teachers found it difficult to answer the question as they did not have enough information about the publicity work. Those who were satisfied, often motivated their answers by saying that as they had sufficient applicants, the information must have been adequate. By large, the answers suggest that those handling the publicity work should have better contact with the participating departments in order to discover the most efficient methods of informing the public about distance educations (Table 9.8).

Table 9.8 Teachers' opinions about the information to the general public. Per cent.

	Head teacher	Other teachers	Total
Information efficient as regards:			
content	48	41	43
choice of method	33	22	25
N	33	87	120

Table 9.9 Number of special target groups for distance education in the participating subjects. Per cent.

Target group	Head teacher	Other teachers	Tot.	Subject area L	A	Ad	S	E	N
Special target groups	67	74	72	75	100	61	80	69	69
Number of the above naming teachers as a target group	82	66	70	94	70	12	88	78	83
N	33	87	120	24	10	28	10	13	35

Table 9.9 summarizes a question about the target groups for the participating subjects. A good 70 per cent of distance teachers consider that there are one or more target groups for their particular courses. The largest single target gorup has proved to be different categories of teachers. Seventy per cent of those who have answered that there is a particular target group for their course, have also said that this group consists of teachers. This is most common in languages and the administrative subjects. The teachers' conceptions of target groups are in agreement with our previous results showing the proportion of teachers participating in the various courses (see Section 3.5.2).

9.3 The teachers' attitudes to distance over-bridging aids

Many of the questions which we put to the teachers, concerned which aids they had used and how the aids had functioned. Teachers were also asked if they had use for other aids and for help from other organizations.

In an earlier section (see 7.3), we studied what students thought about the distance over-bridging aids which had been used. According to the students, written material such as guides to text-books, self-check assignments, assignments to be sent in and study guides were used most. The telephone was also used a lot and was the aid which students would like to see used more. Tables 9.10 and 9.11 show that there is a high degree of consistency between students and teachers as to which aids were used sometimes or often. In these tables we see that it was the head teachers who most often answered that the different aids have been used, which is not surprising, as the head teacher had a more comprehensive picture of the whole course, compared with other teachers who perhaps only answered for a limited part of it. Teachers, above all head teachers, considered that the written material had functioned well in most cases. Their opinion about the telephone was also positive. There were certain variations between the sub-groups. As regards subject area, the results confirmed the opinions of the students. For example, the tape recorder was used mostly in languages.

Seventeen teachers (14 %) answered that they had used other aids. These consisted mainly of material for laboratory experiments. Forty-six teachers (38 %) commented this question, most of them very briefly and only confirming what the table has already told us. We shall, however, present some of the comments as regards the telephone, as this aid was used by all departments and was from the very beginning seen as one of the most important aids in distance education.

"The first year's distance students, almost all of whom were used to studying, used the telephone very little. During the second year, the telephone was used more (the course had a greater number of students unused to studying and it was often those who called). On the other hand, the telephone has been often used by all students for contacts of a practical nature (e.g. requests for certificates, inquiries etc)" (N, Up).

Table 9.10 Planned and desired use of distance-overbridging aids, distributed according to subject area. Percentage "used often" + "sometimes" and "has functioned very well" + "well".

	Tot. no. teachers	Subject area L	A	Ad	S	E	N
Personal letters							
Use	58	71	80	43	90	77	37
Function	46	67	70	29	70	46	31
Study letters							
Use	40	50	40	25	50	62	34
Function	33	38	30	21	50	31	34
Tape recorder							
Use	28	58	-	21	30	8	26
Function	22	46	60	14	10	8	9
Telephone							
Use	83	88	80	68	90	85	80
Function	67	75	70	54	70	77	66
Written study guides							
Use	57	58	40	71	60	5	49
Function	44	50	60	57	40	31	31
Written study guides to textbooks							
Use	63	67	20	61	70	85	63
Function	61	54	60	57	90	54	63
Assignments to be sent in							
Use	58	75	40	57	90	62	43
Function	50	58	70	54	80	23	34
Self-check assignments							
Use	57	54	3	68	60	69	51
Function	55	50	80	61	20	38	63
Conference telephone							
Use	7	-	1	7	10	8	9
Function	2	-	-	4	-	-	3
Telecopier							
Use	2	-	-	-	10	-	3
Function	1	-	-	4	-	-	-
N	120	24	10	28	10	13	35

Table 3.11 Planned and desired use of distance over-bridging aids, distributed according to teacher category and university. Percentage "used often" + "sometimes" and "has functioned very well" + "well".

	Head teacher	Other teachers	Tot.	University Umeå	Upp-sala	Linkö-ping	Gothen-burg	Växjö -Lund
Personal letters								
Use	85	47	58	67	34	55	54	80
Function	61	40	46	51	28	55	46	60
Study letters								
Use	67	30	40	43	31	64	15	47
Function	58	23	33	33	28	64	15	47
Tape recorder								
Use	42	23	28	27	38	73	23	33
Function	15	17	22	18	6	36	15	20
Telephone								
Use	100	72	83	82	72	73	85	87
Function	70	64	67	63	59	73	69	80
Written study guides								
Use	73	51	57	59	47	64	62	80
Function	55	40	44	45	44	36	38	73
Written study guides to textbooks								
Use	76	57	63	63	66	73	69	60
Function	70	57	61	55	59	82	69	60
Assignments to be sent in								
Use	85	48	58	57	44	82	77	80
Function	64	44	50	50	39	73	69	67
Self-check assignments								
Use	85	51	57	65	59	55	77	67
Function	70	51	55	47	63	45	54	60
Conference telephone								
Use	9	6	7	6	3	9	8	13
Function	6	-	2	-	-	-	1	7
Telecopier								
Use	-	2	2	2	-	-	-	-
Function	-	-	1	-	-	-	-	-
N	33	87	120	49	32	11	13	15

"Think that telephone teaching is expensive and hard work in relation to what it achieves. Good as a means of contact now and then" (N, Um).

"The telephone is completely indispensible" (E, Um).

Even if all the teachers used the telephone, the above comments show that attitudes varied.

The answers to the question whether teachers would have liked to use other aids were it possible, have been compiled in table 9.12. Forty per cent of the teachers would like to do so, head teachers more so than other teachers. It was somewhat more common for teachers in Umeå and teachers in the areas of languages, arts and social science subjects. In table 9.12, we have also shown which aids the teachers would have liked to use. The percentages exceeded 100 as teachers could make more than one suggestion. TV, video tape and radio were the aids most often mentioned. Approximately 20 per cent of the teachers, especially those teaching languages, could imagine using one or other of these aids. The total figures for these media cannot be considered anything but low. We know also that distance students are not especially interested in these aids. In spite of everything, very few teachers wanted aids which were not already in use in distance education. Considering that many students requested taped lectures, only 3 per cent of the teachers were of the same opinion. Our interpretation of the results is that the aids already in use were quite sufficient, even though, in some cases, they needed modifying (see also Table 9.13).

Table 9.12 Other aids teachers would have liked to use if they had the possibility, distributed according to subject area. Per cent.

Answer	Tot. no. teachers	Subject area L	A	Ad	S	E	N
Would like to use other aids	40	50	50	32	50	38	34
Aids teachers would have liked to use							
TV	9	17	20	7	-	23	-
Video + film	9	29	-	11	-	-	3
Radio	5	4	-	4	-	8	3
Written material	4	-	20	-	-	8	6
Local groups	4	-	20	-	10	15	6
Sound cassettes	3	8	-	4	-	-	3
Picture cassettes	3	4	-	4	-	-	-
Lab. material	3	-	10	-	-	-	9
Other	3	-	-	4	-	-	-
Total	43	63	90	32	10	54	29
Distance education would work better with help from Hermods, the educational associations, TRU etc.	26	33	40	32	30	15	14
N	120	24	10	28	10	13	35

Table 9.13 Other aids teachers would have liked to use if they had the possibility, distributed according to teacher category and university. Per cent.

Answer	Head teacher	Other teachers	Tot.	University				
				Umeå	Upp-sala	Linkö-ping	Gothen-burg	Växjö -Lund
Would like to use other aids	45	38	40	45	38	27	38	33
Aids teachers would have liked to use								
TV	6	10	9	18	3	-	8	3
Video + film	9	9	9	8	16	-	15	-
Radio	6	5	5	8	3	9	-	-
Written material	6	3	4	6	3	9	-	3
Local groups	6	3	4	6	3	9	-	-
Sound cassettes	6	2	3	2	3	9	8	16
Picture cassettes	3	2	3	2	3	-	8	-
Lab. material	6	1	3	4	-	-	8	-
Other	3	2	3	-	3	-	-	10
Total	51	39	43	55	38	18	46	32
Distance education would work better with help from Hermods, the educational associations, TRU etc.	39	21	26	37	19	-	15	33
N	33	87	120	49	32	11	13	15

The teachers were asked also if they thought distance education would function better with help from e.g. Hermods, the educational associations, TRU or some other organization. Twenty-six per cent of the teachers, more head teachers than others, thought that this might be a good idea. The teachers were able to choose between one or more alternatives. Hermods and TRU were named by 12 teachers and the educational association by 10. Even as far as this quesiton is concerned, it is important to remember that the majority of teachers (74 %), did not think that distance education would function better with help from the above-mentioned organizations. In the following, we shall present some of the teachers reasons for and against such collaboration. The comments were chosen to illustrate as many points of view as possible.

"Yes, perhaps the odd study-motivating, stimulating and entertaining TV programme would be a good idea" (L, Um).

"Not as regards the content of the course. We are the experts there. Yes, as regards the distance aspect. The method and our courses should be presented" (Ad, V–L).

"No, the research basis of the university is necessary to ensure that teaching is of a good quality and it is at the university, in my opinion, that the most suitable teachers are to be found. I believe they can do the job well without the help of outside organizations" (L, Up).

"No, the administrative apparatus of distance education would only be complicated further if other organizations were involved. Have negative experiences from an attempt to collaborate on questions concerning course literature" (S, V–L).

In conclusion, the results of this section could be interpreted to mean that the distance over-bridging aids now in use, i.e. the telephone and written material, mainly function well. This agrees with the opinions of the students. Few teachers would like to introduce new aids into their courses. The one exception was the group of language teachers, many of whom would like access to TV, video and radio, often in the form of recorded material.

Three-quarters of the teachers said no to help from other organizations, such as Hermods, TRU and the educational associations. Those who were positive to collaboration, would like help with certain aspects, but not with the entire planning of the course. It was often pointed out that if such organizations were to be consulted, extra grants must be alloted to the departments, as they had no financial resources for such contract work.

9.4 Teachers' contacts with the students

In the previous section, we studied the aids used in distance education and the teachers' opinions of these. The telephone, which gives direct contact with students, had been used by all departments and the majority of teachers considered that it had fulfilled its purpose. The telephone and the meetings are the methods which primarily served to establish direct contact with students. During the first years of distance education, many university teachers feared that there would not be enough contact with the students as they only visited the university for a few days each term. Our evaluation is hampered by the fact that the problem of contact has not been studied to any extent in regard to students who actually lived in the university town. It was also impossible for distance students, with the odd exception, to compare the different study forms.

In the questionnaire to distance teachers, we tried to establish their attitude regarding contact with distance students as compared to contact with regular students (Tables 9.14 and 9.15). The results clearly and unambigously show that the majority of teachers were quite satisfied with student contact in this form of education. Almost half of the teachers (47 %) even answered that they had had better contact with distance students than with others. This answer was more typical for head teachers and can be explained by the fact that head teachers often had telephone contact with students and were involved for the entire duration of

Table 3.14 Teachers' impressions of the contact with distance students, distributed according to subject area. Per cent.

Answer	Tot. no. teachers	Subject area L	A	Ad	S	E	N
Better contact than with other students	47	71	40	50	20	54	20
Good, same as other forms of education	31	16	30	32	30	31	40
Worse than other forms of education	15	13	10	14	40	-	17
Do not know	3	-	-	-	10	8	6
No answer	4	-	100	4	-	7	17
Total	100	100	100	100	100	100	100
N	120	24	10	28	10	13	35

Table 3.15 Teachers' impressions of the contact with distance students, distributed according to teacher category and university. Per cent.

Answer	Head teacher	Other teachers	Tot.	University Umeå	Upp-sala	Linkö-ping	Gothen-burg	Växjö -Lund
Better contact than with other students	64	40	47	59	38	36	62	20
Good, same as other forms of education	24	33	31	24	34	45	23	40
Worse than other forms of education	9	17	5	6	19	18	14	27
Do not know	-	5	3	4	3	-	-	7
No answer	3	5	4	7	6	-	-	4
Total	100	100	100	100	100	100	100	100
N	33	87	120	49	32	11	13	15

the course. There were some interesting differences between the sub-groups. Teachers in languages, administrative and economic subjects, as well as those in Umeå and Gothenburg, more often answered that contact with distance students was better than with other students.

Eighteen (15 %) of the teachers were of the opinion that this form of education leads to poorer contact between student and teacher. Even here there were differences between the sub-groups, but these were so small that no definite con-

clusions can be drawn. Only 9 per cent of the head teachers held this opinion, compared with the 64 per cent who say that contact is better.

Below we shall present quotations to illustrate how teachers motivated their opinions. First two comments from teachers who considered that distance education leads to better contact with students than other forms of education.

"Better, paradoxically enough. Thanks to frequent direct contact per telephone and the assignments which are sent in, each student has far more personal instruction than students in general" (L, Link).

"Better! These students 'seek' more contact, are more interested in study technique, planning and, not least, in independent work" (Ad, Um).

The explanation as to why contact between teacher and student was better can be two-fold. Firstly, many teachers stressed that these students were the kind with whom it was easy to establish a good contact. Secondly, contact is furthered by the intensive time spent together at meetings and the possibilities of telephone contact. The same explanations were given by teachers who answered that the contact was good, or as good as, that with other student groups.

"Interested, clever, 'want-to-know-more' students participate in the course. Their sense of purpose is perhaps somewhat more obvious than that of regular students. However, in both cases contact has been good" (L, Up).

"Paradoxically enough, just as good. Distance students are more interested and motivated than the average university student" (Ad, Um).

"Too little contact, but this is true of ordinary evening classes" (A, Um).

Finally, some comments from teachers who considered the contact with distance students had been poorer than with other student groups.

"Contact is extremely poor compared with face-to-face teaching in regular education" (S, Um).

"On the whole much poorer, but we have divided the students into groups, each with its own teacher who corrects assignments and examines orally. In these groups contact has been good" (N, Link).

"Not as comprehensive. There have been few periods of intensive teaching. In between, the contacts have consisted mainly of letters concerning the assignments sent in. This has made contacts rather formal" (Ad, Gbg).

9.5 Teachers' assignments

Distance education naturally means changes both for the participating departments and the individual teachers. In our questionnaire, we asked the teachers how their assignments had changed in connection with distance educations.

The teachers' answers are presented in Tables 9.16 and 9.17. As in earlier tables, many more alternatives had been given than the number of teachers. Therefore the percentages exceeded 100. Almost all the teachers (86 %) had experienced changed assignments in connection with distance education. This applied somewhat more often to the head teachers. The most frequent change was "more supervision and more personal contact". After this came "changed working hours", "more development of teaching material", and "more administration and planning". Head teachers and other teachers differed on all points except that of changed working hours. In all four cases, head teachers have, more often than others, answered that their assignments had changed in these ways, which is not to be wondered at, as the head teacher was responsible for the entire course, whereas the other teachers answered only for a limited part of the course. The administrative burden of the head teachers had increased greatly, which suggests that the head teacher, in this form of education, needs more help on this point, either from the secretarial staff of the department or from the university administration. Changed working hours compared with teachers involved in regular university teaching, were expected from the beginning, partly because many of the meetings took place at the weekends and partly because the telephone calls to the students often had to be made in the evening. Working hours for many teachers have changed over the past few years, on account of the increased variety of alternative study forms such as distance education, evening classes and decentralized education.

We shall now present some of the teachers' own comments as a complement to tables 9.16 and 9.17.

"As face-to-face teaching was concentrated to the meetings, it was necessary to develop more work discipline and spend more time on preparing lessons. The organization of the course has been less 'impressionistic' as every item and the order in which they come had to be carefully planned" (A, Up).

"Distance education demands more personal supervision, more exact instructions, and more self-instructive material. All of this means more work, making distance education more exacting (although more fun) than normal teaching" (Ad, Um).

"The obvious result is that more time has been spent on formulating written material and individual instruction by letter or by cassette" (N, Um).

"Considerably more evening teaching and meetings at the weekends, which was not appreciated by the family" (E, Up).

"More marking and individual help. Telephone teaching very time-consuming. Administration greatly increased" (N, Link).

Being aware of the expected changes in the teachers' assignments, we were very interested to find out if distance teachers considered that they needed special training for their work. Tables 9.18 and 9.19 show the answers to this question. Thirty-eight per cent of the teachers said that teachers participating in distance education

Table 3.16 Changes in teaching assignments brought about by distance education, distributed according to subject area. Per cent.

Answer	Tot. no. teachers	Subject area L	A	Ad	S	E	N
Teachers who said their work assignments had changed	86	83	80	79	90	77	97
Nature of change							
More planning	13	15	25	27	10	10	3
More development of teaching material	22	15	50	36	70	20	9
More administration	19	35	25	14	10	20	15
Change in time for work	24	25	50	27	40	30	15
More supervision and personal contact with students	33	30	25	18	60	10	12
Other changes	16	-	-	9	10	60	24
N	120	24	10	28	10	13	35

Table 3.17 Changes in teaching assignments brought about by distance education, distributed according to teacher category and university. Per cent.

	Head teacher	Other teachers	Tot.	University Umeå	Upp-sala	Linkö-ping	Gothen-burg	Växjö -Lund
Teachers who said their work assign-ments had changed	91	84	86	82	97	55	100	87
Nature of change								
More planning	17	11	13	20	10	-	-	33
More development of teaching material	37	16	22	38	10	33	8	38
More administration	33	14	19	23	20	-	15	23
Change in time for work	23	25	24	28	45	-	23	23
More supervision and personal con-tact with students	33	19	33	28	20	67	8	23
Other changes	13	15	16	15	10	-	46	8
N	33	87	120	49	32	11	13	15

Table 9.18 Answer to the question if teachers working with distance education need special training, distributed according to subject area. Per cent.

Alternative	Tot. no. teachers	Subject area L	A	Ad	S	E	N
Yes	38	21	30	39	70	62	34
No	51	58	70	50	20	31	57
Do not know	11	21	-	11	10	7	9
Total	100	100	100	100	100	100	100
N	120	24	10	28	10	13	35

Table 9.19 Answer to the question if teachers working with distance education need special training, distributed according to teacher category and university. Per cent.

Alternative	Head teacher	Other teachers	Tot.	University Umeå	Upp-sala	Linkö-ping	Gothen-burg	Växjö -Lund
Yes	42	37	38	45	22	55	15	60
No	51	51	51	43	72	36	62	33
Do not know	6	13	11	12	6	9	23	7
Total	100	100	100	100	100	100	100	100
N	33	87	120	49	32	11	13	15

Table 9.20 Contents of special training for teachers working with distance education. Per cent.

Content	%
Production of teaching aids and media technique	37
Pedagogical training	33
Experiences from other distance teachers	30
Study guidance and study technique	11
Total	105
N	45

would benefit by special training. Head teachers tended to give this answer more than other teachers. Variations in the sub-groups were large, although in a few cases the groups were too small to form a basis for conclusions. Teachers in social sciences and economic subjects more often answered that special training is needed. The same applies to teachers from Växjö-Lund and Linköping. Those who said special training was needed also said what this training should include (Table 9.20). In the first place, instruction was needed in the production of teaching materials and in how to choose and use media. General pedagogical training was also requested. Somewhat less than a third of the teachers desired an exchange of experiences with other distance teachers. In some cases, it was pointed out that this could be done in a similar way to the conferences held before the start of distance education. During the first year of distance education, UKÄ arranged yearly conferences for distance teachers. These were much valued by the participants. Several of the teachers whom we interviewed said how much they had learned during these conferences.

In table 9.2.., we also see that a small number of teachers would have liked training in study technique and study guidance. We saw earlier, that a large number of students would also have appreciated more help in this respect.

The following are some of the suggestions made by teachers for the special training of distance teachers.

"Yes, mass-media instruction, educational technology, distance methodology, distance student psychology, exchange of experiences with other universities teaching the same or similar subjects" (L, Um).

"Yes, information about the experiences of 'old' distance teachers, on the lines of the conferences held by UKÄ. Experiences of older, employed students would also be valuable" (N, Link).

"Yes, mass-media instruction, i.e. training in the production and usage of different types of teaching materials, as well as a certain amount of training in educational technology, e.g. how to best use a tape recorder. Exchange of experiences with other departments and subjects would be valuable" (L, Um).

"Yes, conferences where people could exchange experiences—perhaps after this, the question of whether special trianing is needed could be answered" (Ad, Um).

In 1973, the need of a special training for teachers was discussed, at a conference about distance education (Epistolodidaktika 1973). The main problem lay, above all, in the difficulties of defining the specific tasks of the distance teacher. Training should not be over-emphasized, as it is the personality of the teacher, e.g his or her understanding for the special student group and form of education, which is important. However, it was agreed that certain common areas of training did exist, namely:

1. The tutor should first get to know the content of the courses.
2. He should have a knowledge of andragogy (adult education).

3. He should have a knowledge of multi-media technique.
4. He should have pedagogical knowledge and capability.
5. He should know how to organize study time.
6. He should be able to handle a group.
7. He should be qualified in a specialist subject if the objectives of the face-to-face meeting require this.

We can see that these points to some extent agree with the requirements of our teachers. In Sweden, the problem is who is to be responsible for such training and also who would be capable of doing the job satisfactorily?

A large proportion of the teachers involved in distance education during the first years, were pedagogically interested and dealt with a lot of difficulties which arose. Considering the involvement these teachers showed in their work, it is probable that they succeeded in conveying some of the positive effects to regular teaching. Tables 9.21 and 9.22 present the answers to the question "Do you think that distance education has had any positive effects on regular education?". According to more than half the teachers, distance education has had positive effects on regular education. Head teachers, who had the best overall view, replied far more often than other teachers (85 % and 49 % respectively), that distance education had positive effects. Positive effects were more usual in languages, arts and social science subjects compared with administrative, economic and natural science subjects.

The differences were less noticeable between the universities. We have

Table 9.21 The positive effects of distance education on regular education, distributed according to subject area. Per cent.

	Tot. no. teachers	Subject area L	A	Ad	S	E	N
Regular teaching has been influenced positively by distance teaching	59	71	80	57	70	46	49
Nature of influence							
Teaching material used in other courses	65	88	25	63	57	50	71
Given rise to discussion of teaching methods in the department	30	24	63	31	29	17	24
Provided new target groups and new contacts	10	-	13	31	-	-	6
N	120	24	10	28	10	13	35

Table 9.22 The positive effects of distance education on regular education, distributed according to teacher category and university. Per cent.

	Head teacher	Other teachers	Tot.	University Umeå	Upp-sala	Linkö-ping	Gothen-burg	Växjö -Lund
Regular teaching has been influenced positively by distance teaching	85	49	59	55	59	55	69	67
Nature of influence								
Teaching material used in other courses	75	58	65	52	68	100	78	60
Given rise to discussion of teaching methods in the department	39	23	30	33	32	17	11	40
Provided new target groups and new contacts	4	14	10	11	11	-	22	-
N	33	87	120	49	32	11	13	15

classified the effects mentioned in three groups. In general, the most positive effect of distance education was that other courses had benefited from the teaching aids. Thus, much of the material specially produced for distance teaching was able to be used for other groups. This was most usual in languages and natural science subjects, as well as in Linköping and Gothenburg. Somewhat less than a third of the teachers answered that distance education had resulted in more pedagogical discusisons in the department. A smaller group of teachers (10 %) answered that they had found new target-groups of students and established new contacts outside the department.

To illustrate further the positive effects of distance teaching on other forms of education, we quote some of the teachers' comments to this question.

"Material produced for distance education, has been of use in the regular classes. For example, taped material, study guides, written guides to text-books, written material, oral exercises" (L, Um).

"Will force the adoption of a better course-book" (N, Up).

"Yes, the production of new material has stood us in good stead, certain modified methods in regular teaching have benefitted by the new material" (L, Link).

"Contact with employed students should give teachers as much as they give the students, in the form of an exchange of experiences between theorists and practicians. Perhaps this can lead to a better relation to reality, even in other forms of education" (Ad, Um).

9.6 Advantages and disadvantages of distance education—teachers' opinions

In an open question the teachers were given the chance to say what they thought were the advantages and disadvantages of distance education. The majority of the teachers answered this question (Tables 9.23 and 9.24). As before, we classified the answers in order to give a more comprehensive picture of the teachers' views. The number of teachers naming advantages (86 %) exceeded the number naming disadvantages (78 %). In both cases more head teachers than other teachers answered the question.

The most often named advantage (79 %) was that this form of teaching gives more people the chance to receive a university education as they can keep their jobs and study at the same time, without having to move to a university town. A

Table 9.23 Teachers' views on the advantages and disadvantages of distance education, distributed according to subject area. Per cent.

	Tot. no. teachers	Subject area L	A	Ad	S	E	N
Teachers who have named advantages	86	88	100	75	100	77	89
Nature of advantage							
More people can receive a university education	79	67	70	90	80	100	71
Ambitious students	15	24	20	19	-	10	10
Good for the development of the department	15	24	20	14	-	10	16
Better contact between teacher and student	4	-	-	-	-	10	10
Teachers who have named disadvantages	78	83	100	68	80	85	71
Nature of disadvantage							
Less contact between teacher and student	34	30	50	37	25	18	32
Less contact between students	13	20	-	11	25	18	8
Fewer opportunities for discussion	18	20	30	16	63	18	-
Creates a lot of work and problems for the department	37	60	20	16	63	36	32
N	120	24	10	28	10	13	35

Table 9.24 Teachers' views on the advantages and disadvantages of distance education, distributed according to teacher category and university. Per cent.

	Head teacher	Other teachers	Tot.	University				
				Umeå	Upp-sala	Linkö-ping	Gothen-burg	Växjö -Lund
Teachers who have named advantages	91	84	86	88	78	82	85	100
Nature of advantage								
More people can receive a university education	83	77	79	77	76	78	91	80
Ambitious students	13	15	15	19	20	22	-	-
Good for the development of the department	7	19	16	14	24	33	9	-
Better contact between teacher and student	7	3	4	3	-	-	2	-
Teachers who have named disadvantages	85	75	78	78	77	82	62	100
Nature of disadvantage								
Less contact between teacher and student	36	31	32	26	35	33	50	33
Less contact between students	14	12	13	13	-	22	25	20
Fewer opportunities for discussion	29	14	18	21	17	-	13	27
Creates a lot of work and problems for the department	21	43	37	37	35	44	50	27
N	33	87	120	49	32	11	13	15

number of teachers also pointed out that distance education gives those with a low educational background, the possibilities of pursuing university studies. There were only small differences between the sub-groups for this alternative.

The other three alternatives naming advantages with distance education have attracted fewer markings. Fifteen per cent said that the students were ambitious and agreeable to work with. Roughly one in five teachers say that distance education had been good for the development of the department. On the other hand very few teachers (4 %) answered that the contact between teacher and student was better than in other forms of education.

If we take a look at the disadvantages mentioned, we find that 32 per cent have answered that the decrease in the amount of contact between teacher and student, and among the students themselves, was a disadvantage. These last two results seem somewhat confusing in relation to other results accounted for in this section. In answer to a previous question (Tables 9.14 and 9.15), 47 per cent of the teachers answered that contact with students was better than in other forms of education. A further 31 per cent considered the contact as good as in other forms of education and only 15 per cent of the teachers considered it to be worse.

The discrepancy in these results can seem puzzling. The impressions we formed when visiting the participating departments largely supported the results pointing to good contact between teacher and students, in the majority of cases better than contact in regular courses.

The incongruence is to a large extent superficial. To judge by the comments, the disadvantages named by the teachers in response to the latter question, refer to the quantitative aspect, i.e. frequency of contact, whereas the results presented earlier, dealt with the quality of the contacts. The risk of too few contacts, despite their positive nature, was confirmed by student views on distance education and the need for reinforcements on the feedback side, i.e. meetings, telephone service and postal contact.

Tables 9.23 and 9.24 show further disadvantages with distance education. The more commonly mentioned disadvantage was that distance education created more work and many problems for the participating universities. In all, 37 per cent of the teachers took up this point. There was however, a great difference between head teachers and the other teachers, head teachers having named this disadvantage twice as often. The other teachers probably did not have the same overall picture of the course and its organizaiton. Indeed, it emerged during our contacts with departments, that these teachers had not always been involved in planning the course, but only informed of their share in the work. Also, it was most often the head teachers who participated in the conferences arranged by UKÄ, so that the other teachers had probably not had the same possibilities of discussing their problems concerning distance education.

Another negative alternative dealt with students' opportunities for contact with each other, which according to 13 per cent of the teachers are insufficient in this form of education. Somewhat more teachers (18 %) also considered that distance education did not provide enough time for discussion. This was pointed out, above all, by teachers in social science subjects. In these subjects various types of group discussions have had a prominent place in teaching during recent years.

In summary, more teachers pointed out the advantages of distance education than the disadvantages. However, the alternatives were very difficult to compare with each other. The majority of teachers stressed the advantages of recruiting new students groups. The disadvantages mentioned concerned the lack of contact between teacher and student and among students themselves, as well as problems within the departments.

It should, however, be possible to counteract the negative effects of distance education. Earlier on, we pointed out the importance of feedback to students and that a new approach, or the modification of existing methods could improve this situation. In conclusion, we shall present some of the teachers' answers to this question. "A" in front of a comment denotes an andvantage, "D" a disadvantage.

A Extremely motivated students, ambitious and positive. Very good contact with many of them (per telephone) (sometimes hard work). The review of teaching material during the planning of distance education was profitable (A, Um).

D More frequent contact between teacher and student needed in the form of both local and central meetings. Difficult to get groups of students to work together between meetings because of the distances and other reasons (E, Um).

D Hard work, time-consuming. Can sometimes be difficult to establish personal contact with the students per telephone. (On the other hand contact with other students categories is often even more impersonal)" (L, Gbg).

A 1. New student groups. Study motivation very high among many of the students. They have often long experience from different areas of activity. These experiences can be drawn upon during lectures, examinations and reports.
2. More incentive for individual supervision of studies (E, Um).

A Groups in society who are forced, for the sake of their jobs, to live far from the university, have the chance to pursue university studies. This can even apply to women who are tied to the home, but for this reason should not be hindered from participating in higher education (N, Up).

D If the groups are too large, personal contact with the students disappears. A lot of administration without extra resources (assistants and study counsellor). Difficult to know how much work should be put into finding out the study-counselling needs of students" (L, Link).

9.7 Teachers' views on the future of distance education

At the beginning of the 1970's, the Committee for Radio and Television in Education (TRU) was commissioned to make proposals for the overall organization of distance education in Sweden. A working committee was appointed which, against the background of an international review, suggested a number of organizational models varying in the amount of central administration. The committee did not, themselves, state a preference for any particular model.

We included a question about these models in our questionnaire to the distance teachers, asking them to choose which one they would prefer. The answers are presented in Tables 9.25 and 9.26.

We have chosen to include all the alternatives in the tables, even those with few markings. The first three alternatives imply central organization and the other

three, regional organization. Only 8 per cent of the teachers said they would prefer a central organizaiton. The second of these three alternatives, that an already existing university be responsible for distance education, received most markings (6 %). It was mainly teachers in Umeå and Växjö-Lund who marked this alternative. There were almost no teachers who thought that a new university or institute should be established to take care of distance education.

The regional alternatives appealed most to the teachers. In all 87 per cent have marked one or other of the three alternatives in this group. Almost half of them chose the alternative that "the six universities be responsible for distance education within their own educational regions". There were some differences between the sub-groups regarding this alternative, head teachers choosing it somewhat more often than other teachers.

Teachers in Gothenburg and Växjö-Lund, as well as teachers in arts and social science subjects preferred the latter alternative somewhat less often than other teachers. Instead, other teachers tended to choose one of the other two regional

Table 9.25 The teachers' choice of the TRU-committee's different alternatives for distance education at university level, distributed according to subject area. Per cent.

Alternative	Tot.	Subject area					
		L	A	Ad	S	E	N
1	2	-	-	-	20	-	-
2	6	4	10	4	10	8	6
3	-	-	-	-	-	-	-
4	48	64	30	50	20	46	49
5	17	4	10	14	30	15	26
6	22	20	50	11	10	31	14
No answer	6	8	-	21	-	-	6
Total	100	100	100	100	100	100	100
N	120	25	10	28	9	13	35

1 = That a special higher education unit be established for distance education

2 = That an already existing university take charge of distance education

3 = That a special institute affiliated to a state-owned unit for the production of teaching aids be responsible for distance education

4 = That the six universities be responsible for distance education within their own educational regions

5 = The same as alternative 4, but with national recruitment. UHÄ to be the coordinating authority

6 = That each higher educational unit be responsible for distance education in its own area

Table 9.26 The teachers' choice of the TRU-committee's different alternatives for distance education at university level, distributed according to teacher category and university. Per cent.

Alternative	Head teacher	Other teachers	Tot.	University: Umeå	Uppsala	Linköping	Gothenburg	Växjö-Lund
1	3	1	2	-	-	-	-	13
2	9	5	6	10	3	-	-	7
3	-	-	-	-	-	-	-	-
4	55	46	48	55	56	64	31	13
5	6	21	17	4	19	27	23	40
6	15	24	22	24	19	-	31	27
No answer	12	3	6	6	3	9	15	-
Total	100	100	100	100	100	100	100	100
N	33	87	120	49	32	11	13	15

1 = That a special higher education unit be established for distance education

2 = That an already existing university take charge of distance education

3 = That a special institute affiliated to a state-owned unit for the production of teaching aids be responsible for distance education

4 = That the six universities be responsible for distance education within their own educational regions

5 = The same as alternative 4 but with national recruitment. UHÄ to be the coordinating authority

6 = That each higher educational unit be responsible for distance education in its own area

alternatives—"that the six universities be responsible for distance education within their own educational region, but with national recruitment. UHÄ to be the coordinating authority" or "that each higher educational unit be responsible for distance education in its own area". In principal, the differences between the various alternatives were not large. The emphasis on national recruitment is especially relevant for small subjects. Unfortunately, the TRU-committee did not take into consideration the varying size of the subjects when putting forward their suggestions.

We shall once again present some of the teachers comments.

Alternative 2

"Alternative 2 would lead to something like the English "Open University" which has proved to be a success" (N, Up).

"Umeå University's experience of distance education suggests that it would be best if the existing universities were to be responsible for distance education" (A, Um).

Alternative 4

"Suggestion 4 seems the only acceptable one to us. We regard personal contact with the students to be an exceptionally strong motivating factor. Therefore, we consider that close affiliation to the regional university is better than centrally organized distance education e.g. by a special institute. On the other hand, resource should not be dispersed among a lot of smaller units (alt. 6), at least not as far as English is concerned" (L, Um).

"Entirely in the spirit of the Higher Education Reform, as it would imply a high degree of decentralization (a). Gives the student better opportunities of personal contact with teachers and other students, more contributory influence and more facilities for intensive studies" (N, Um).

"Model 4 allows more meetings and gives teachers greater freedom to organize courses, as well as more direct responsibility for the students. This should increase the motivation of both teachers and students" (N, Link).

Alternative 5

"Avoid duplicating courses if the number of students is small. Give each university the opportunity to create a profile of its own through the variety of courses it offers. Division in regard to the most suitable transportation from home to university does not always correspond to the division into educational regions" (N, Up).

"The teacher must never become a mere administrator without any contact with a) research b) regular teaching at the university. My subject continually alters form and content, even though the changes are small each time. These can be assimilated by contact with a) and b). Further, meetings require the services of a team of teachers with research experience relevant to the different parts of the course" (E, V-L).

Alternative 6

"a. Regionally, to decrease the travelling distance.
b. National recruitment cannot compete with a., but only makes it easier for the student to study where he wants to, giving him the same rights as other students.
PS. I think the TRU-Committee have been in too much of a hurry. Why not discuss all the possibilities of combining regular teaching with distance education and decentralized education more seriously" (S, V-L).

"But with the possibility of national recruitment for subjects given at only one university. If the goal is to be the same as now" (Ad, Gbg).

It was quite clear that the teachers preferred a regional model for distance education and that this form of education should be available at all of the six universities. The comments point out that this would mean less bureaucracy, lower costs and better contact with the distance students.

We can also mention that in a proposal to the 1975 Parliament, the Minister of Education called attention to the fact that the experimental activities initiated by UHÄ had been in operation for only a relatively short time and that the new regional boards would have the responsibility for the continued development of the activities. Thus the Higher Education Reform meant that the main responsibility for the organization of distance education and the administration of its resources was transferred from the central government office to a regional board.

9.8 Summary

In order to obtain a more comprehensive picture of distance education, we considered it necessary to include the experiences of the teachers. This information was gathered in two ways. Firstly, each "distance department" was visited twice during the academic year 1974–1975 and secondly, a questionnaire was sent to the participating teachers in the Autum term 1976. One hundred and twenty of the 130 teachers concerned, answered the questionnarie, a response frequency of 92.3 per cent. In the questionnaire to the teachers, we concentrated on the following areas:

1. Organization of the distance course
2. Attitudes to distance education
3. Attitudes to different aids
4. Attitudes to distance students and contact with them
5. Pedagogical effects on regular teaching
6. Nature of the teachers assignments
7. The administrative organization of distance education as a form of higher education in Sweden.

Part of the information collected in this quesitonnaire was accounted for earlier in this report.

When analysing the questionnaire, the material was divided into various subgroups. For example, we divided the group, so that the teachers responsible for a distance course, so-called head tachers, were presented separately. We also divided the material according to subject area and university.

The majority of the distance teachers had worked with distance education at the most for four terms. Head teachers had often worked longer than others with this form of education. As distance education in Sweden is of such a recent date, it is almost impossible to have had longer experience.

Most of the questions in the questionnaire to the teachers, were open ones and we chose to present the answers in two ways. Firstly, we classified the answers and presented them in tabular form. Secondly, in connection with these tables, we have directly quoted some of the answers, in order to give a better picture of the way teachers motivated their answers and how the different components were often interwoven.

The first area treated was the attitude of the teachers towards the information about distance education to the public. More than half of the teachers thought that the central university administration together with the departments involved whould have the responsibility for publicity work. Very few teachers would prefer the departments to handle publicity work by themselves. A somewhat larger group held the opposite view and would prefer UHÄ to deal with publicity work, although many of these teachers stressed that UHÄ should only be responsible for information on a national level. As far as the existing publicity work goes,

teachers were not very satisfied, especially not with the choice of information channels.

On examining the teachers' answers, one gets the impression that those who handled the publicity work should have had more contact with the departments concerned, in order to discuss the most suitable methods of disseminating information.

An important step in the information process is deciding on the target groups for each course. More than 70 per cent of the teachers said there were one or more specific target groups for their courses. The largest single target group proved to be different categories of teachers.

Regarding aids used in distance education, teachers were of much the same opinion as their students. Written material and the telephone were widely used and the majority of teachers thought they had functioned well. It emerged that 40 per cent of the teachers would have liked other aids. Twenty per cent would have liked to use technical aids such as TV, videotape and radio. This figure was surprisingly low, but agreed well with the opinions of the students. The analysis of the answers to this question shows, that the aids in current use in distance education were considered quite sufficient, even though some of them needed modifying.

Few teachers (26 %), considered that distance education would profit from collaboration with e.g. Hermods, TRU or the educational associations.

The teachers were surprisingly positive to the contact with the students considering that they met them so seldom. Almost half of the teachers said that contact with students was better in distance education than in regular education. A further 31 per cent said that contact was good or similar to other forms of education. This can be explained partly by the intensive contact during meetings and by telephone and partly because the students belonged to a category with whom it was easy to establish contact.

Distance education entails more time-consuming work assignments than other university teaching and many teachers pointed out that the telephone contact with the students, took up much of their time. Distance education also required more planning, more administrative work and a considerable production of teaching materials. Working hours were also altered, so that distance teachers hd a lot of overtime in the form of evening work and weekends. We must remember that the departments had not had such long experience of distance education and that a similar inquiry after 5—10 years would probably produce a different picture. It is clear that the work load must be greater during the first years as so much new material has to be produced.

At the same time we should note that more than half of the teachers said that distance education has had positive effects on regular education, mainly the teaching-aid situation. Even pedagogical quesitons had been raised at the departments.

The greatest advantage of distance education, according to the teachers, is that it gives new groups in society the chance of a university education. These groups

include those who are older, employed and unable to move to the university town. When we asked about the advantages of distance education, some of the teachers also answered that it attracted well-motivated students and that it was good for the development of the department.

The disadvantages of distance education are above all that the contact between teacher and student can be unsatisfactory and that there are too few opportunities for discussion between students. In this context, we should note that the students themselves did not mention this to any great extent. Quite a lot of teachers saw the increased work-load and the problems created for the department as the main disadvantages. However, as we said previously, this situation may change when distance education has been in operation longer.

Finally, we asked the teachers for their views on the organizational models, three central and three regional, described by the TRU-Committee. Only 8 per cent considered a central model to be suitable and no one thought it a good idea to establish a special institute affiliated to a state-owned unit for the production of teaching aids. Almost 90 per cent of the teachers considered that distance education should be organized regionally. Of these, the majority were for the suggestion that the six universities be responsible for distance education in their own educational regions and, indeed, after the Higher Education Reform, it is this model which has been implemented.

Part IV

What happens to the university's distance students? A follow-up investigation after five years

10. Introduction to the follow-up investigation and organization of the investigation

10.1 Introduction to the follow-up investigation

The following part of the investigation constitutes the second stage of the evaluation of distance education at Swedish universities. In evaluating the project, our objective was to construct an overall picture of distance education. This entailed covering a number of aspects considered to be important in the exeprimental activity. The advantages of a follow-up investigation at a suitable point in time, were discussed during the final phase of the previous evaluation of distance education (see Chapter 1).

The investigation presented here, aims at studying

1) attitudes to distance studies five years after the commencement of studies.
2) occupational situation during a five-year period.
3) educational situation during a five-year period.

As we mentioned previously, during the course of the evaluation, we found that the investigation could be seen in a wider perspective, namely, that of recurrent education. In Sweden, studies within the sector of higher education, have come to play a major rôle in the field of recurrent education, due to changed entrance requirements and new forms for the courses offered. A follow-up investigation of the type described above, gives us the opportunity to study former distance students' occupational and educational situation during a longer period of time.

Research on adult students, is a relatively new area which several projects have attempted to describe and review. During latter years, however, research has strived to find new approaches, both as regards content and method. An area which was of great interest to us, was the life-situation of adult students and how this was related to their educational situation. These two factors are naturally closely interwoven. The life-situation of an individual influences whether or not he decides to study and also steers his choice of educational organization. A follow-up investigation of the type presented here, can thus tell us which educational activities are chosen by which groups, and, perhaps, why they are chosen. It is also important, especially for educational planners, to learn how people combine different educational alternatives.

In the next section, we shall give an account of how the investigation was organized and carried out. After this, we shall present the attitude of the investigated group to distance education, five years after the distance course com-

menced. Finally, the occupational and educational situation of the group during the five years in question, will be analysed.

10.2 The investigated group

As a first step in the evaluation of distance education, a questionnaire was distributed on two occasions to students who began distance studies during the academic year 1974–75. In a previous section (4.1), a suitable panel-group was selected. The main reason for our choice was that our particular interest lay in the reactions and attitudes expressed in the second questionnaire and seen in relation to the background information given in the first questionnaire. The panel group thus consisted of 797 people who had answered both questionnaires.

The panel group was the group we chose to study in the follow-up investigation. Some slight alterations were made. In planning the follow-up investigation, it was decided to exclude students under the age of 25 as this group constituted only 4 per cent (32 students) of the total population and was considered too small a group to be broken down into even smaller units in the planned analyses. Fifty-one other people had to be excluded (6 %) as we had insufficient background information about them to be able to place them in any of the planned sub-groups. The investigated group thus consisted of 714 people. A questionnaire (app. 4) wes sent out to this group in May and June 1979.

10.3 Response frequency

One of the problems with follow-up investigations which take place a long time after the first contact with the group involved, is, naturally, getting people to answer the questionnaire. A necessary condition, if the results are to be at all reliable, is a sufficiently high response frequency in relation to the size of the original population. We know from similar investigations that this can be problematic.

Our questionnaire was distributed to 714 people. The first batch was sent out in May 1979 and we assumed that all the answers would be received by the end of June. We had, however, not reckoned with so many of our subjects (29 %) changing addresses during the preceding period, a fact which caused us much extra work. In 26 cases, it was not possible to trace the new addresses.

The response frequency, as shown in Table 10.1, is high. If the number of answers is calculated as a percentage of the total target group, we arrive at a figure of 80 per cent.

In reality, not all the 714 people had the possibility of answering the questionnaire, as 6 were deceased and 8 had moved abroad. There were also 26 people whose addresses we did not suceed in tracing. This leaves us with 674 people, of whom 84.6 per cent answered the questionnaire.

The frequency of change of abode was somewhat different in the various sub-

Table 10.1. Investigation group and response frequency

Group	Male	Female	Total
Population	402	312	714
Deceased	2	4	6
Living abroad	4	4	8
Address not known	17	9	26
Total	23	17	40
Net population	379	295	674
Number of answers	323	251	574
Response frequency	85.2	85.1	85.2
Response frequency (total population)	80.5	80.4	80.4

groups. Students at the educational establishments of Växjö and Lund, moved more often than others. This may be due to an 8-point course in education (A3) which was given in both Lund and Växjö and which attracted students who, at the same time, studied at a Teachers' Training College (see Willén 1981, p 9). Addresses difficult to find were often those of younger people and it was mainly people from this group who had gone abroad.

10.4 Non-response analysis

We shall now take a closer look at the non-response group to see if it differs in any way from the group which answered the questionnaire.

In order to see if there were any differences between the group which answered the follow-up questionnaire and those who did not, certain variables were selected from the previous two questionnaires to form a basis for comparison. (See Willén 1981, p 10.) Only differences within the male and female groups respectively were tested by means of a chi^2 test, as the differences between the sexes was so obvious in many variables as to render a test of the whole group meaningless. There were differences between those who answered the questionnaire and those who did not, but only in two cases were these differences significant at the 0.5 level, a figure which could be expected by chance when testing the significance of 22 variables. One of these differences was, however, interesting. This was the variable "studied 10 hours or more". Men, who have answered, tended to choose this alternative more often. The difference in percentage was large (35.8 % as opposed to 11.9 %). A possible explanation is that those who devoted more time to studies, were also more interested in them and, in consequence, even in the evaluation of these

studies. However, we must not forget that all the students, both those who filled in the questionnaire and those who did not, had participated actively in distance studies for the entire run of the course. The other difference concerned female students who had taken courses in the economic subject-group, but we have not been able to find any special explanation for this.

The result of the non-response analysis shows that in all probability, we can conclude that there were no very great differences between the groups and that the results of the investigation will not be effected to any great extent. The non-response analysis combined with the high response frequency means that we can regard the representativeness of the investigated group as being completely satisfactory.

10.5 Sub-groups

When presenting the results, the investigated group will be classified according to education, motive for studying and age. As regards education, the students were classified according to previous experience of university studies. Those who had no previous experience of university studies before the distance course were divided into two groups. We differentiated between teachers (those who taught in the lower and middle levels of the comprehensive school) and others, assuming that the two groups had different study skills.

Table 10.2 shows that quite a large proportion of the population had no experience of university studies before the distance course (42 %). When the teachers were excluded from this group, the proportion decreased to 35 per cent. There were no differences between men and women in this respect. The age categories were the same as those used in the previous part of the project (Chapter 4.3).

Table 10.2. The investigated group, distributed according to sex and previous experience of university studies. Per cent.

Educational background	Male		Female		Total	
	n	%	n	%	n	%
Previous experience of university studies	192	59	144	57	336	59
No previous experience of university studies						
Teachers	20	6	19	8	39	7
Others	111	34	88	35	199	35
Total	323	100	251	100	571	100

Table 10.3. Distribution of the investigated group according to age and sex. Per cent.

Age	Male		Female		Total	
	n	%	n	%	n	%
25 - 34	142	44	109	43	251	44
35 - 44	112	35	85	34	197	34
45 -	69	21	57	23	126	22
Total	323	100	251	100	574	100

A good half of the investigated group were more than 35 years of age and about a fifth were over the age of 45 when they began studies. This applied to both men and women. It should be remembered that, in reality, the people in the group were almost 5 years older when the follow-up investigation was carried out in the Summer of 1979 (Table 10.3).

When the students began distance studies, they were asked what motive they had for studying. In the questtionnaire, the question about motives and the alternative answers were as follows:

What is your reason for beginning the course you are now studying? If you have several reasons, mark *the most important one with two* crosses and the others with one cross.

1. To improve general education
2. No other occupation available/waiting for another occupation
3. Supplementary studies in order to be eligible for a restricted university course
4. Professional training (for those who have no prior training)
5. To advance in present professional area
6. To be able to change to a new occupation
7. To be able to do present job better
8. To stand a better chance on the labour-market.

The formulation of the question permits to give one or more reasons for studying.

In this investigation, we used the question about motives as a basis for dichotomizing the group. As we had the possibility of studying a group for a longer period of time, we thought it important to see if the original motive for studying co-varied with other variables, measured on a later occasion. We therefore mainly focused our interest on those who began studies for general educational reasons and on those who wished to change their occupational situation by studying.

Reality turned out to be complicated in as much as the students could not be divided up into clearly defined groups according to, for example, occupational change motive or general educational motive. In most cases, motives for studying were interwoven (cf Chapter 5). As we can see in Table 10.4, only 8 per cent in all,

Table 10.4. Classification of the investigated group on the basis of motive for studying, distributed according to age and sex. Per cent.

Study motive	Male			Female			Total		
	Age			Age					
	25-34	35-44	45-	25-34	35-44	45-	Male	Female	Tot
	%	%	%	%	%	%	%	%	%
Solely occupational change reasons (alternative 4,5,6)	9	1	4	12	14	4	5	11	8
Occupational change reasons + general educational reasons	44	36	27	36	35	37	38	36	37
Total number of answers which included elements of occupational change	53	37	31	48	49	41	43	47	45
General educational reasons + desire to have better professional situation	47	63	69	52	51	59	57	53	55
Total	100	100	100	100	100	100	100	100	100
N	187	151	91	146	114	78	429	338	767[x]

[x]The panel group (Chapter 4) with the exception of those who where under 25 when the studies began.

had purely occupational change motives for their distance studies. Thirty-seven per cent gave a combination of occupational change reasons and general educational reasons for studying, which brings us to the conclusion that 45 per cent of the group had some element of occupational change in their motives for studying (see also Szymczak 1977). Fifty-five per cent of the total group gave no occupational change reason whatsoever for their distance studies, but say that they studied to improve their general education and/or their present occupational situation. The complexity of these answers made it necessary to undertake a more thorough analysis of these questions in order to avoid an oversimplification of reality.

If we take another look at Table 10.4, we see that the occupational change motive was most common among men in the lowest age group and that the difference between this group and the highest age group was more than 20 per cent. The difference between the corresponding groups of women was not at all so large, at most 8 per cent, which can be explained by the life-situation of women and the different rôles they have as adults. More women than men acquire a

Table 10.6. The study motives of the investigated group, distributed according to sex. Per cent.

Study motive	Male		Female		Total	
	n	%	n	%	n	%
Occupational change motives	125	39	105	42	230	40
General educational motives	198	61	146	58	344	60
Total	323	100	251	100	574	100

professional training later in life when children and the family do not require so much attention.

The proportion of occupational change reasons varied in the different age group, being most common between the ages of 25—44 years. After the age of 45, the proportion decreased. On the other hand, the proportion of general educational reasons rose with increasing age.

There was a clear difference as regards the alternatives "professional training" and "to change jobs". These alternatives were much more common among those with only secondary school education and those without secondary school education, than among teachers and those with a university background. The latter two groups seldom gave these alternatives as reasons for taking the distance course (Chapter 5.1). The answers to the study motive question were divided into two broad categories, occupational change motive and general educational motive. The resulting distribution of the investigated group is presented in Table 10.5.

At the beginning of distance studies, approximately 40 per cent of the investigated group said that they wished to study in order to change their occupational situation, whereas the others studied in order to improve their general education or to better their professional knowledge.

11. Distance education in retrospect—five years later

11.1 Study results

In the account given earlier in this report, we saw that the study results were surprisingly high. Sixty-five per cent of the panel group had completed their studies and passed their tests after three terms. The results of that particular investigation also showed that the number of passes in the 20-point course increased from the second term to the third term, by 12 per cent. Table 11.1 shows the number of passes up to Spring term 1979, i.e. four years after the completion of the distance course.

Four years after completion of distance studies, the number of passes increased from 65 per cent to 76 per cent. In all, 11 per cent of those who passed their tests, did so during a period from Autumn term 1976 – Spring term 1979. Men were slightly in the majority here. This indicates that a relatively large number of students returned to their studies after a long interval and took their tests. The distance model should be fairly suitable for students, who, for one reason or another, are unable to complete their studies within the normal space of time. Compared to

Table 11.1. The study results of the investigated group four years after the completion of the distance course, distributed according to sex. Per cent.

Study result	Male %	Female %	Total %
Pass	77	75	76
N	251	323	574
Of this number:			
Pass: Autumn term 74 - Spring term 76	83	88	86
Autumn term 78 - Spring term 79	13	9	11
Time not known	4	3	3
Total	100	100	100
N	193	243	436

Table 11.2. Study results after four years, distributed according to sex and previous experience of university studies. Per cent.

	Previous experience of university studies		No previous experience of university studies			
			Teachers		Others	
	M %	F %	M %	F %	M %	F %
Pass	80	75	85	74	66	80
N	192	144	20	19	111	88
Of this number:						
Pass:						
Autumn term 74 - Spring term 76	91	84	71	86	88	81
Autumn term 76 - Spring term 79	7	12	24	7	10	15
Time not known	3	4	6	7	3	3
Total	100	100	100	100	100	100
N	153	108	17	14	73	70

younger people who study full-time, the life-situation of adult students is such that there must be possibilities of extending studies over a longer period of time. Pedagogical problems can arise if departments plan their distance courses without taking such facts into consideration.

Table 11.2 shows study results, distributed according to previous experience of university studies.

Men with previous experience of university studies have considerably more often completed the distance course than men without university experience, whereas the opposite was true of women, although not to the same extent. It is interesting to note that men have often taken less time than women to complete their studies. One explanation may be that more women than men studied English which, as in the earlier investigation, proved to take a very long time.

We see in table 11.3 that it was younger women between 25—34 who had the lowest number of passes. In the two older age groups, women had very good results, 81 per cent of those between 35—44 years and 86 per cent of those over 45 having passed their tests. Men had considerably lower results, especially in the oldest age group.

Men under the age of 45 completed their studies quicker than women of the same age, while the opposite helds for those over the age of 45. Thus, the older women proved to be a group who studied both quickly and well.

We shall see also if the motive for studying co-varies with study results (Table 11.4).

Table 11.3. Study results after four years, distributed according to sex and age. Per cent.

Study result	Age 25-34		35-44		45-	
	M %	F %	M %	F %	M %	F %
Pass	76	69	77	81	71	86
N	142	109	112	85	69	57
Of this number:						
Pass:						
Autumn term 74 - Spring term 76	91	79	88	83	84	90
Autumn term 76 - Spring term 79	6	19	10	13	12	6
Time not known	4	3	1	4	4	4
Total	100	100	100	100	100	100
N	108	75	86	69	49	49

Table 11.4. Study results after four years, distributed according to study motive and sex. Per cent.

Study result	Occupational change motive		General educational motive	
	M %	F %	M %	F %
Pass	72	75	77	78
N	125	105	198	146
Of this number:				
Pass:				
Autumn term 74 - Spring term 76	88	84	89	82
Autumn term 76 - Spring term 79	10	9	7	17
Time not known	2	8	3	1
Total	100	100	100	100
N	90	79	153	114

The study motive did not appear to co-vary with success in studies to any great degree. Those who studied for general educational reasons had been slightly more successful than those who studied in order to change jobs, but the differences were minimal.

A total of 76 per cent of the investigated group of distance students completed

their studies. It should be added that a number of people who had not completed their studies, said in the questionnaire that they intended to do so. Tremaine & Cavanagh (1979) arrived at similar results in their study of distance education at the university in New Zealand.

11.2 Concluding discussion of the study results

A number of investigations in the area of higher education, recently reviewed by Elgqvist-Saltzmann (1976), have demonstrated the difficulty of measuring accurately the effectivity of education from the available examination statistics, mainly because of the number of early drop-outs, many of which are not due to failure, but are rather a sign that the student has been accepted for another, more desirable course (Miller 1970, Black 1972, McIntosh & Woodley 1978). As regards distance education and separate courses for older students, one could argue that the number of alternatives are limited, but one must not forget that university circles organized by the educational associations may be a serious alternative and it is not always clear at the beginning of a term whether these will be able to take place or not (see Chapter 3.5 and Tengling & Willén 1975). Statistics of those studying at a slower rate have been analyzed to a much lesser degree than statistics of full-time students. The gross figures for the latter are usually relatively low and a more definite picture of results is obtained first after sorting over the material and submitting it to an intensive analysis. There is, therefore, no reason to expect anything other than low figures until a corresponding, special analysis has been undertaken (Dahllöf 1973b). In this investigation, we have assumed that there is no reason to have greater expectations of distance education than any other form of higher education that is conducted at a slower pace and addressed to working adults. In general, results from previous investigations in the Faculty of Arts show that 50 per cent or more of those who actively pursue studies complete their studies within the alloted time. Our problem is that we have no adequate comparison group.

To begin with (see Chap. 8) we presented the examination frequency for the panel group (N=797) as well as for the larger group (N=1171). One of our problems is that those with 0 points were excluded from the larger group, but included in the panel group. The panel group consisted of students who, according to their own judgment and that of their teachers, had been active during the entire study period. Thus, one must take into consideration the fact that the official statistics of active students are not entirely comparable with the active students in our investigation.

The examination results for the two groups of distance students were remarkably good. Fifty-eight per cent of the larger group passed their tests after three terms and in the panel group this figure was even higher (65 %). If those who had no points were excluded from the panel group, the figure rose to 72 per cent.

When the material was divided up subject-wise, noteable differences occur. In 17 of the courses taken by students in the panel group, the examination frequency was higher than 65 % after three terms. Languages, with the exception of German, had poor results, a fact which was confirmed by other investigations. Twenty-point courses had better results than the shorter 8 and 10-point courses. The study results for this particular group of distance students thus proved to be far more satisfactory than those achieved by Hermods students taking correspondence courses at university level (Chapter 1.6).

We took a look at the study results after two terms, three terms and five years (cf SOU 1957:24). We see that the number of passes in the 20-point courses increased by 12 per cent. As regards English, the number of passes increased markedly between the second and third terms. These results suggest that distance students sometimes needed an extra term to complete their studies. This should be taken into account when planning this type of education, as the majority of this student group pursued their studies parallel to full-time employment.

In the follow-up investigation, five years after the commencement of distance studies, it is clear that there was one group of distance students who needed a long time to complete their studies. A total of 76 per cent of the students completed their studies after five years, showing that a comparatively large number returned to studies after a long interval and took their examinations. In addition the majority of those who had not completed their studies said, in the questionnaire, that they intended to do so.

The study results of the panel group were also analyzed with regard to sex and educational background. It has been often discussed whether students who have never studied at university are able to cope with distance studies which require the ability to plan one's own work and to take initiative. In our investigation however, it was quite obvious that, in this respect, there were no great overall differences between the educational groups (cf. McIntosh, Calder & Swift 1976). On the other hand, different areas of study produced varying results, although these results did not point in any one direction. In four of the sub-groups, arts, administrative subjects, natural sciences and the 8–10 point courses, students with less previous education did better than those with a university background. The opposite applied to the sub-groups, langauges, economics and social science subjects. Two explanations spring to mind. Firstly, success in the latter sub-groups may have been furthered by certain basic knowledge and secondly, the two groups differed in the distribution of study motives. A pass with distinction was more common among those with previous experience of university studies than among those with less education. Students with previous experience of university also improved their study results from the second to the third term to a greater extent.

Courses which started in the Spring term showed better results than those which started in the Autumn term. This fact remained when the subject group was held constant. It would seem that the summer vacation gave students the

necessary extra time to catch up with what they had missed and to prepare for coming studies. We also classified study results according to the location of studies, without finding any differences.

Probably factors related to individual subjects can explain some of the differences in examination results, factors concerning the characteristics of the particular student group and even more so, the contribution and commitment of the teacher.

Within the field of distance education the question of drop-outs, study results and pass-rates have been discussed backwards and forwards for many years. It was considered too difficult and time-consuming to obtain exact figures for drop-outs and study results as correspondence schools have students who continually apply for courses and the information given about the estimated time it takes to complete a course is rather vague.

Glatter & Wedell (1971) have reviewed this problem area and conclude that the drop-out frequency is much higher in correspondence courses than in full-time oral courses and that the rate is highest at the beginning of a course. Bååth (1980) also summarizes a number of investigations of non-starters and drop-outs. "When non-starters are included among non-completers, drop-out rates around 50 per cent are not unusual" (Bååth 1980, p 47). The proportion of students who do not complete their courses is much higher in the above reports than in our investigation. Rekkedal (1972, 1973) has reported similar figures.

Glatter & Wedell (1971) however, go one step further in their analysis: "To sum up, correspondence students who get through their courses seem to do as well as, or better than, their counterparts taught the same subject-matter orally, when they come to take tests or examinations. A large proportion of them, however, drop out during their courses, especially in the early stages, and so never take the examinations. On the face of it, this evidence could suggest to someone bent on discrediting the correspondence method that the student who masters the rigours it imposes is anyway of such high quality (and certainly of higher quality than many students taught orally) that he could succeed under any method: that, in fact, he is successful in spite of, rather than because of, the method. But this is not the whole story, for it is not clear yet whether students drop out because of difficulties involved in studying by correspondence, or simply because of difficulties involved in having to study part-time, and having to fit study in with other commitments" (Glatter & Wedell 1971, pp 50–51).

The authors believe they have found support for this hypothesis. In two cases, the drop-out frequency was more or less the same for correspondence students as for traditional part-time students. One of these cases concerned students at the University of Queensland in Australia and the other, students at Birkbeck College in London. Both places offer traditional education as well as correspondence education. This type of comparison cannot pretend to give a general answer to the problem as the authors do not describe the correspondence method which has been compared with part-time courses.

If correspondence courses include face-to-face tuition or other forms of student/teacher, student/student contact, this ought to be specified when making comparisons, as the results may very well depend on the actual method used in correspondence education (cf. Schramm 1977).

The level of courses should be also held constant when making comparisons (cf Dahllöf 1975, Sheath 1972, Smith 1975a, b). Similar ideas have been put forward by Malley et al (1976) and Tinto (1975) taking Durkheim's theory on suicide as their starting point. Malley et al suggest that students who participate in correspondence courses have difficulty in adjusting to the social system of the correspondence school. Contact between students and teacher is very slight. Lack of social integration may lead to an added risk for drop-outs.

We believe the kind of approach combining data about teaching method, student characteristics and educational level, to be a profitable one in the search for an explanation as to why the number of drop-outs in distance education varies so widely.

11.3 Has distance education given rise to any problems?

In the previous investigation we tried to gain some idea of the sort of problems distance education had created for participants. An open question as to what distance education had meant for students gave very few (4 %) negative comments. These mostly took up problems of a practical nature, such as having a guilty conscience for not having spent enough time on studies, due to the interference of other activities.

In the present follow-up investigation, we have once again attempted to discover the problems associated with studying at a distance. On the basis of our previous experience, we now asked a more direct question as to whether distance education had given rise to problems in connection with economy, family or work.

After the distance course, surprisingly few people considered that they had had any problems (Table 11.5). In all, 6 per cent had encountered problems of an economic nature, 9 per cent had had family problems and 6 per cent had experienced problems at work. It should be noted that those who had experienced problems, often named more than one at the same time. Thus, we can conclude that at the most, 10 per cent of the investigated group have had the above type of problem. As several years have elapsed since the studies in question were completed, there is the chance that problems of a minor nature may have passed out of recollection.

Here we were quite sure that women, especially the younger ones, would have encountered family problems, as we had previously seen that this group, more often than men, assumed the main responsibility for children and housework. However, Table 11.6 shows that the opposite seemed to be true. We have

Table 11.6. Number of people stating that problems have arisen to a greater or lesser extent after the completion of distance studies, regarding economy, family or work. Per cent.

Problem	Male %	Female %	Total %
Economy	7	6	6
Family	10	7	9
At work	7	4	6
N	323	251	574

Table 11.8. Number of people, distributed according to age and sex, who consider that problems have arisen to a greater or lesser extent after the completion of distance studies, regarding economy, family or work. Per cent.

Problem	Age 25-34		35-44		45-	
	M %	F %	M %	F %	M %	F %
Economy	6	5	5	5	13	10
Family	11	6	11	12	10	-
At work	7	3	5	2	9	7
N	108	75	86	69	49	49

Table 11.7. Number of people, distributed according to study motives, who have encountered problems of an economic, family or occupational nature to a greater or lesser extent after completing the distance course. Per cent.

Problem	Occupational change motive		General educational motive	
	M %	F %	M %	F %
Economic	7	10	8	3
Family	12	10	10	4
At work	10	6	5	2
N	125	105	198	146

previously also found proof that distance education suited this category of women better than, say, evening classes which probably have a more disruptive effect on family life.

In Table 11.7 we have classified the students according to their motives for studying. No great differences can be found between the groups. Those with motives stemming from a desire to change their occupational situation were, however, more likely to report problems at work after a distance course, which may be the combined result of the actual studies and the desire to change their occupational situation.

Thus, only a very small percentage of our group, four years after the conclusion of their studies, stated that they had had problems of an economic, family or occupational nature.

These low figures were surprising. Women, especially the younger ones, were expected to emerge as a well-defined group. Their situation must often have been a difficult one, as many of them had a job as well as responsibility for the home and children. Obviously distance studies suited these students better than other forms, due to the built-in flexibility of the method.

11.4 Is distance education to be recommended?

The attitude to distance education was reflected in a question asking the students what would be their answer if a friend asked for advice about applying for a distance course. The answers are summarized in Table 11.8.

An overwhelming majority of the students (84 %) said that they would recommend their friends to take distance courses. Only 1 per cent would advise against it and 14 per cent would neither recommend nor advise against distance education (Table 11.9).

These results show that most students, even long afterwards, recalled their studies as a positive experience, even though several of them now had other forms of education to compare with (see below).

Those who previously had some form of higher education were slightly more positive to distance education than those without this experience. The latter group tended more often to neither advise against nor recommend distance studies.

We also analyzed this question according to age and motive for studying, but as the results showed no differences between the groups, they are not presented here. Instead, the interested reader is referred to an earlier report (Willén 1981 app. 3).

Thus, we can conclude that most of the students in our investigation would recommend distance education to others. This answer was more predominant among students with previous experience of higher education than among those without this experience.

Some students have commented their answers to this question. Forty-four (9%)

Table 11.8. Number of students, distributed according to sex, who would recommend distance education. Per cent.

Answer	Male %	Female %	Total %
Would recommend	83	84	84
Would neither recommend nor advise against	14	13	14
Would advise against	1	2	1
No answer	2	2	2
Total	100	100	100
N	323	251	574

Table 11.9. Answers to the question whether students would recommend distance education to a friend. Distribution according to sex and previous experience of higher education. Per cent.

Answer	Previous experience of university studies		No previous experience of university studies			
			Teachers		Others	
	M %	F %	M %	F %	M %	F %
Would recommend	85	86	75	79	81	82
Would neither recommend nor advise against	13	10	20	16	16	17
Would advise against	1	2	-	-	1	1
No answer	1	2	5	5	2	-
Total	100	100	100	100	100	100
N	192	144	20	19	111	88

of those who said they would recommend distance studies, gave additional comments. Of these 44, 32 consider this form of study to be a positive one, well-suited for adult students. Other frequent remarks were that one can never acquire too much knowledge, that self-confidence increased and, also, that this form of study demands self-discipline if students are to succeed.

Thus, there remain 14 per cent who answered that they could neither recommend nor advise against distance education. Forty-three of these people (54 %) have commented their answers. The majority said that the choice or decision must rest with the individual. They would not or could not give advice. For example, one male student said:

"I can imagine giving information about the advantages and disadvantages of distance education, but the suitability of this form of study for each individual must be decided by the person himself" (Economics).

11.5 Interest for studies

If distance education has functioned well, interest for studies should not have declined after the course, compared to what it was before the course.

In Table 11.10 we can see that very few pupils (8 %) considered their interest for studies to have declined after the distance course. Fourteen (30 %) of these students commented their answers. Seven motivated their answer by saying that other activities such as family, recreation and work took up too much time. Two students said that they were tired of studying, two were disappointed in the courses, one lost interest on account of illness and two considered that academic qualifications did not carry much weight on the labour-market.

Thus, only 2 of the above comments took up disappointment in the distance courses, whereas all the remaining comments referred to factors unconnected with the actual studies, such as work, family or illness.

When the investigated group was analyzed from the point of previous experience of university studies, it seemed that those with no such experience prior to the distance course more often acquired a greater interest for studies after participating in the course (Table 11.11). In the group of teachers, interest for studies has increased to a great extent.

When the group was divided according to age (Table 11.12), an intersting pattern emerged. Interest for studies after the distance course grew with increasing age. This tendency was stronger for women than for men.

Unchanged interest for studies was most usual in the lower age groups and least usual after the age of 45.

Table 11.10. Interest for studies 5 years after the distance course, compared with interest for studies before the course. Distribution according to sex. Per cent.

Answer	Male %	Female %	Total %
Greater interest	33	37	34
Interest unchanged	59	52	56
Less interest	7	8	8
No answer	2	4	3
Total	100	100	100
N	323	251	574

Table 11.11. Interest for studies five years after the distance course compared with interest before the course. Distribution according to educational background and sex. Per cent.

Answer	Previous experience of university studies		No previous experience of university studies			
			Teachers		Others	
	M %	F %	M %	F %	M %	F %
Greater interest	27	26	55	69	38	49
Interest unchanged	65	63	35	21	53	40
Less interest	7	8	5	-	7	8
No answer	1	3	5	11	2	3
Total	100	100	100	100	100	100
N	192	144	20	19	111	88

Table 11.12. Interest for studies five years after the distance course, compared with interest before the course. Distribution according to age and sex. Per cent.

Answer	Age					
	25-34		35-44		45-	
	M %	F %	M %	F %	M %	F %
Greater interest	29	28	32	38	42	51
Unchanged interest	63	56	57	54	52	40
Less interest	8	11	9	6	2	6
No answer	1	6	2	2	3	4
Total	100	100	100	100	100	100
N	142	109	112	85	69	57

Men who began their studies for general educational reasons were somewhat less likely to state that their interest for studies increased after the distance course, compared with women who had started to study for the same reason and with those who began with the motive to change their occupational situation (Table 11.13).

The number of people reporting a decline in interest for studies since the course was very small (8 %) and represented no particular category.

Table 11.13. Interest for studies five years after the distance course compared with interest before the course. Distribution according to motive and sex. Per cent.

Answer	Occupational change motive		General educational motive	
	M %	F %	M %	F %
Greater interest	37	37	30	37
Unchanged interest	54	55	62	49
Less interest	8	6	7	9
No answer	1	2	2	5
Total	100	100	100	100
N	125	105	198	146

The majority answered that their interest was unchanged because it was so strong before the course that it could hardly increase afterwards. Of those who reported an increase in interest, 26 (13 %) gave additional comments to their answers. The reasons for an increased interest in studies were several. Many students stressed the satisfaction of learning something new and also said that their self-confidence increased greatly during the course of their studies.

Here, our results can be compared with the results form an investigation of living conditions in Sweden (SCB 1976) which, among other things, assessed the interest for studies among the population in general. It was found that a large proportion of the Swedish people say themselves to be interested in some form of studies (42.4 %). This is a considerably larger percentage than those who actually participated in a course of study during the period of the investigation. In this investigation, interest for studies was greates in the lower age groups and diminished with increasing age. Women showed a greater interest for studies than men, but it should be pointed out that the women's studies were more in the nature of a hobby. Interest for studies was generally less among people with only compulsory schooling. An interesting result of this investigation was that the length of working hours and how they were planned did not seem to affect interest for studies. On the other hand, this factor ought to be of importance for the amount of energy actually invested in studies.

We shall now proceed to look at a question which illustrates what distance education has meant for the participants.

11.6 Answers to an open question about what distance education has meant to the students

When the students who began distance studies in the academic year 1974/75 completed their courses, they were asked the following question: "What has distance education meant to you?". Only answers from the students who completed their studies in May–June 1975 were analyzed, i.e. half the panel group (Chapter 7.5). Eighty-two per cent of this group answered the question. Such a large proportion of answers seemed a safe basis for drawing conclusions. Other questions asked on the same occasion supported our findings. The answers to the open question were classified. A third of the answers took up distance education as a form of study, by explaining the different ways in which it had been especially satisfactory. A smaller percentage of the answers (12 %) implied that distance studies had been of significance for the students' occupational situation. Half the answers were placed in a third category of a more general nature. This category included answers which emphasized that distance studies had resulted in greater self-esteem, increased general knowledge, good relations with teachers and other students, and more insight into the implications of university education. This category also comprised answers which, in contrast to the other two categories, stressed the psychological and social effects of distance education. Only 4 per cent of the answers took up negative factors.

The same question was put to the students in May–June 1979, four years after the completion of their studies. The answers were categorized according to the same principles as before and the results are presented in Table 11.14.

Table 11.14. Answers to the question about what distance education has meant to the students in retrospect, distributed according to sex. Per cent.

Answer		Male %	Female %	Total %
Number of answers	%	76	83	79
	N	323	251	574
Negative experience		6	3	5
Study form important		31	36	33
Occupational reasons		17	22	19
Self-realization		53	60	56
Other		7	2	5
Total		114	123	118
N		246	208	454

As in the previous questionnaire, a large number of students (79 %), slightly more women than men, answered the above question. As regards the content of the answers, it must be pointed out that the question has obviously been answered in different ways. It is quite clear that women have responded more openly and emotionally than men. Their answers were also longer.

The answers were categorized according to the same principles as in the previous investigation (Chapter 7.5). Thus, if a student expressed several opinions in his/her answer, they were included in more than one category. One of the five categories was a negative one, i.e. all answers expressing negative opinions were referred to one category, even if the answers have also included positive comments. The remaining categories all contained only positive experiences of distance education.

When the answers were assigned to different categories, it can be seen that an answer could have several components referring to different categories. This meant that Table 11.4 included a large number of answers than the number of people who replied to the question.

In Table 11.4 we see that extremely few students (5 %) voiced negative opinions about distance education. As has already been pointed out, this category contained a mixture of positive and negative views. Dissatisfaction with distance education is naturally motivated in diverse ways. In four cases, the only answers given were "nothing" and so it was difficult to know what the person in question meant. Nine students were either disappointed in the subject itself, or dissatisfied with the way in which studies were organized. Two subjects were mentioned by more than one student and these subjects were the very ones which had been criticized for poor planning in the previous investigation. Organization is, of course, extremely important and it is clear that planning and carrying out a distance course placed great demands on the department in question (cf Willén 1978). Seven of the students who were negative towards distance education motivated their views with factors appertaining to themselves. For example, they felt that they had insufficient previous knowledge of the subject and could not keep up the pace. A few of these students began to study at a lower level with the intention or returning to distance studies eventually, which is, naturally, an adequate solution to the problem both for the individual and the university. The remaining two students, in both cases teachers, considered the distance courses to have been unsatisfactory because they had not resulted in better qualifications for their teaching jobs.

The answers of the largest group (56 %) were placed in a category of a more general nature. This category contained answers which emphasized the psychological and social effects of distance education.

The other two categories comprise answers which had bearing on the students' occupational situation and distance education as a special form of study. A good third of the students answered that this form of study was a very good one and often added that it was the only possible form of studies for them, on account of

their other activities. This answer was slightly more typical of women than men. The female students also more often stated that the distance course was of importance for their occupational situation. A total of 19 per cent said that distance education had had a positive influence on their occupational situation.

In Table 11.15 the answers to this question were distributed according to previous educational background. Regarding the study-form, the main comment was that this was the only alternative for many individuals who were employed full-time, partly because these students had no possibility of taking leave of absence in order to move to the university town and partly because distance education did not require attendance at lectures on numerous occasions, which can be difficult for many students even if they live in the neighbourhood of the university. As two students express it:

"This was the only possibility I had of studying a subject I was interested in. I am extremely positive to distance education and the opportunities it provides for those who live far from a university town, or for those who, like me, have small children. I have read several subjects at university before and I think distance education is planned in such a way that it can easily compete with the regular university courses" (Female student 35–44 yers old. Educational Technology).

"If a person like me, is periodically tied down at home with small children, distance education can function as a 'safety valve', a way of developing oneself and learning something new, even if contact with other adults is at a minimum. If, on top of everything else, one lives a long way from a university, distance studies are the only chance and, perhaps, a means of survival" (Female student 25–34 years old. English).

Table 11.15. What distance education has meant to the students, distributed according to educational background. Per cent.

Answer	Previous university education		No previous university education			
			Teachers		Others	
	M %	F %	M %	F %	M %	F %
Negative experience	6	2	-	18	6	3
Positive opinions						
Study form	32	46	33	35	28	21
Occupational situation	15	20	13	12	20	27
Self-realization	47	51	67	71	67	71
Other	8	3	-	-	7	1
Total	108	122	113	136	128	123
N	146	114	15	17	85	77

Naturally, the answers in the group "occupational situation" were not homogenous. In the case of men, it could be seen that the distance course had contributed towards changing their occupational situation, and, in some cases, resulted in a better job. The other large group more often included both women without previous employment who, thanks to the course, had found work, and women who had gone from part-time to full-time employment.

A more detailed analysis of the answers under the heading of "self-confidence" will be undertaken later.

There were also interesting differences between those with previous experience of academic studies and those without such experience (Table 11.15). The former group, especially the women, drew attention to the fact that this was a positive study form, a result which is fascinating considering that this group had other study forms to compare with. Those without previous academic experience, on the other hand, were more likely to stress that the distance course had been of importance for their occupational situation and their self-esteem. Participants used to studying have probably already acquired a certain amount of self-esteem as far as studies are concerned.

When the answers were distributed according to age (Table 11.16), interesting results were once more forthcoming. It was, above all, the two younger groups of women who considered this study form an important one. This was probably related to the fact that many of them cared for family and children. Their answers often referred to children and their need for care and attention in a way which was quite different to the answers given by the male students (see Haukaa 1976, Brock-Utne & Haukaa 1980).

Table 11.16. What distance education has meant to students, distributed according to age. Per cent.

Answer	Age 25-34		35-44		45-	
	M %	F %	M %	F %	M %	F %
Negative experience	8	3	1	3	8	4
Positive experience						
Study form	25	39	35	40	35	23
Occupational situation	22	2[illegible]	15	26	11	17
Self-realization	50	51	51	59	60	79
Other	7	3	10	-	3	2
Total	112	118	112	128	117	125
N	102	88	82	73	62	47

I think this gives us an excellent picture of two completely different ways of thinking.

Below are three examples of how female students have answered this question:

"I think the course was splendid. It made it possible for me to study despite small children and a lack of babysitters. It suited me perfectly. It also meant that the family got used to me studying and I have continued to do so. Now the children are older and after one more term I shall have my B.A. If it had not been for the distance course, I might not have started studying at all. As it was, I had some experience when I started the next course" (25–29 years old. English).

"It was an easy way of making the transition to full-time studies. It would have meant a minor revolution for me and my family if I had gone over to full-time studies from the very start. Distance education gave both me and my family a year to adjust to the idea without venturing all at once. Women's studies and careers are so often interrupted when they have a family. This was so in my case. Without distance education, I might never have taken up studies again" (25–34 years. Sociology).

"Extremely stimulating. Married women with small children are often tied to their husband's place of work and in this way they (I mean the women) still can have a chance of further education. Perhaps even a field of their own in which they can become interested. The children demand a lot of attention and some stimulation from the outside world is necessary. I, myself, consider that I was stimulated more by my distance studies than by my part-time job, in spite of agreeable colleagues" (35–44 years. English).

The occupational situation of those under the age of 44, especially that of female students, more often changed for the better. On the other hand, older students more often tended to say that the distance course meant a lot from a psy-

Table 11.17. What distance education meant to the students, distributed of answers according to motives for studying. Per cent.

Answer	Occupational change motives		General educational motives	
	M %	F %	M %	F %
Negative experience	5	5	6	2
Positive experience				
Study form	28	37	33	35
Occupational situation	24	22	12	22
Self-realization	52	61	53	60
Other	6	-	7	3
Total	115	125	111	122
N	96	84	150	124

chological point of view, e.g. increased their self-esteem. Seventy-nine per cent of the female students over 45 years of age, answered that the distance course had been extremely positive in this sense.

When the answers were distributed according to motives for studying (Table 11.17), only very slight differences between the groups materialized. One difference was, however, interesting. Male students, who began a distance course with the intention of changing their occupational situation, twice as often as other male students answered that the distance course had had a positive effect on their occupational situation.

It has been shown clearly, that distance education satisfies different needs in different people and that the investigated group are highly content with their distance courses in this respect.

11.6.1. Increased self-esteem as a result of studies

A most interesting result, and, perhaps, a somewhat unexpected one, was that many students made it clear that the distance course had had a positive effect on their feelings of self-esteem. In all, 56 per cent of the investigated students answered that distance studies had been of importance for their self-esteem in one way or another (Table 11.14). Included in this category were a number of answers mentioning that studies had implied increased general knowledge, good relations with teachers and fellow-students and a greater insight into the implications of a university education. As it was so markedly obvious that students experienced the effect of studies on their self-esteem as something of the utmost importance, we shall now analyze this result in greater detail.

One of the goals of all education is to further the self-esteem of the individual. This aim has probably been most emphasized in connection with adult education, although it is not defined as a specific goal, but constitutes part of other goals such as those of increased equality and social justice. It is also comprised in the aim of adult education to increase the social and cultural consciousness of citizens. However, these goals are on a society level and in this project we are most interested in goals on an individual level, a point we shall return to later on. Most of the research projects which have studied the effects of adult education, have not looked into such problems. This omission is understandable as the concept of self evaluation is a difficult and complex one.

In one of most frequentiy used Swedish educational reference books, self-esteem is defined as:

"the value one attaches to one's own personality" (Egidius, 1977).

This definition may appear simple, but, if one explores the research carried out in this area, it can be seen that the concept of self-esteem has fascinated research workers from many disciplines. The most usual approach to the problem of self-esteem is a psychological one, where self-esteem is regarded as an important ex-

planatory variable. The work done by Sjöstrand (1974) in compiling and analyzing the research in this area is well worth mentioning in this connection. Sjöstrand shows that the majority of researchers in this field consider self-esteem to be learned through social interaction:

"The common view among these research workers is that we learn our worth as objects by observing how other individuals react to us, praise us and blame us" (Sjöstrand 1974, p 26).

It also clearly emerges that relations to dependents—parents, close friends and teachers—are of importance in this respect. Another significant factor is social status, as "the higher the social status that an individual enjoys, the more likely he is to evaluates himself positively (ibid. p 33). Different occupations are associated with varying social status. High status professions are often those which require a long theoretical training (Björck 1967, Herloff 1967). A number of investigations have also shown that pupils who choose theoretical subjects at school, evaluate themselves higher than those who choose practical subjects (Johannesson 1967, Willén 1973).

In her review, Sjöstrand arrived at certain conditions which increase the likelihood of positive self-esteem. Briefly, it can be said that accepting parents are a pre-requisite and that the personality characteristics of an individual should coincide with those rated highly by the social environment. The level of aspiration of an individual should also be in agreement with his actual ability and achievement, and he must also possess a strong defence against possible criticism (see further Sjöstrand 1973, p 64). Sjöstrand also points out some important consequences of low self-esteem, namely

"—Such individuals feel unhappy and anxious.

- Such individuals have little faith in their own ability to improve their evaluation by achievement or social contacts.
- These individuals are characterized by social incompetence. They do not function satisfactorily in a social context. They live in the shadow of social groups and society and show signs of possessing qualities which make it difficult for them to cooperate with others.
- The behaviour and personality characteristics which seem to be an effect of low self-esteem are not those which are rewarded by the social environment" (Sjöstrand 1974, p 78).

These short quotations give us some idea of how complex this concept is both to measure and to relate to other variables. Perhaps, for us, the most important part of Sjöstrand's analysis (1974) is her discussion of how self-esteem is a variable which both explains and is explained by other behaviour and experiences. As Sjöstrand appropriately puts it:

"The relation of self-esteem to other variables is best described as a circle where the effects of self-esteem at the same time tend to be the determinants of self-esteem" (Sjöstrand 1974, p 83).

Zetterberg (1977) has studied the same type of problem in another context, namely, that of the individual's situation at work and what different styles of living can imply in this connection. His approach is very similar to the one used in this investigation. Zetterberg contends that an individual's self-esteem has two sources, an inner one and an outer one. The inner source is judged to be more stable and reliable than the outer one, which is of a more temporary nature and, at times, even non-existent. Zetterberg says that the inner source depends on whether our actions succed or not, whether we are competent, enterprising and capable (ibid. p 34). The outer source, on the other hand, depends on how others evaluate us, the most important people in this connection being those who are close to us e.g. parents.

In order to elucidate and explain the effects of education on self-esteem, the question naturally ought to have been approached from a different angle than was possible in this investigation. However, we believe that even minor contributions are of importance, and, put together, may help to shed some light on this question. We deemed it important, therefore, to make a special study of the group of students in our investigation, who especially mentioned the subject of self-esteem. It is, of course, a great disadvantage that we had no possibility of comparing with other groups e.g. with students who gave up their studies or with those who had not yet begun to study. In our investigation we were most interested in how students motivated their increased self-esteem and to what factors they attributed it. Hypothetically, a distance course can increase self-esteem in relation to work, family, friends etc. In order to study more closely self-esteem in our group, we selected students who, in one way or another, had mentioned self-esteem in their answers to the above question. Unfortunately as the analysis of the data must be performed manually, no complicated operations could be carried out at this stage.

We tackled the problem in the following way: from the category previously designated "self-actualization" we selected answers which, in one way or another, clearly referred to the concept of self-esteem i.e. the answer must explicitly express that studies had influenced self-esteem. A total of 56 per cent of the answers to the question about what distance education had meant to students, fell into the category of "self-actualization". The figures were 60 per cent for female students and 53 per cent for male students.

Seventeen per cent of the entire group who answered the question (454 students) mentioned that their self-esteem had increased as a result of studies. A considerably larger proportion of women than men (25 per cent compared with 11 per cent) said that this was an important result of distance education.

As we have seen previously, increased self-esteem is a complex and ambiguous statement which needs to be analyzed further. The important question is really "In what way has self-esteem been influenced positively?", "What is it related to?".

As the group we were dealing with was rather small, only 79 people in all, caution needed to be exercised in interpreting the results.

In Table 11.18, the distribution of male and female students who mentioned the

Table 11.18. Proportion if students who have increased their self-esteem as a result of distance education, distributed according to sex. Per cent.

Answer	Male %	Female %	Total %
Increased self-esteem	11	25	17
N	246	208	454
Reason			
succeeded with studies	23	38	33
general or unspecified	31	25	27
increased knowledge	15	25	22
positive effect on work	23	8	13
social	8	6	6
Total	100	100	100
N	26	53	79

concept of self-esteem is presented according to the categories which emerged when the material was analyzed. As we can see, considerably more women than men spoke of increased self-esteem after studying and there were also sex differences in the way these answers were motivated. Over a third of the women said that their self-esteem increased bacause they had succeeded in doing what they set out to do. It was clear from many of the answers that they were unsure at first of their study capacity, especially, as we see in Table 11.18, women without previous experience of university studies. From the same Table 11.18, we can also see that this explanation was most often given by women in the youngest and oldest age groups.

We pointed out earlier that there were qualitative differences in the answers to this question and that these were related to the sex of the student. Female students seemed to find it easier, or perhaps felt the need, to express themselves more explicitly and in a more varied manner than male students. Somewhat more men than women abstained from motivating their answer. Increased self-esteem as a result of increased knowledge was mentioned by 25 per cent of the female students and 15 per cent of the male students. We considered that the two categories "succeeded with studies" and "increased knowledge" were so close to each other that increased self-esteem in these respects could be said to be related to factors within the individual. Two other categories, self-esteem in relation to work or to factors of a social nature had probably a different background.

In these latter cases, it seemed feasible to assume that self-esteem towards other people had increased in a more direct manner. It is worth noting that women,

twice as often as men (63 % as opposed to 38 %), motivated their increased self-esteem with what we chose to define as inner factors, namely, "suceeded with studies" and "increased knowledge". Almost a quarter of the male students as opposed to 8 per cent of the female students answered that their self-esteem had increased in relation to work. Naturally this can be accounted for by the fact that somewhat more women than men were not gainfully employed (Chapter 6.2).

The difference between men and women also may partly depend on their different attitudes to studies from the very beginning and, indeed, we know from the results of the previous evaluation that male students were considerably more often confident that they would succeed with their studies. There were also slightly more women than men who planned to spend at least 10 hours a week on their studies. As regards the attitude of the environment to studies, i.e. the attitudes of parents, spouse, employer, only the attitude of the latter, showed any difference. Men, more often than women, thought that their employer was positive to the studies in question.

In their investigation of adult students, Johansson & Ekerwald (1976) drew attention to the fact that many students manifested an anxiety in relation to studies which was directly related to self-esteem. It was apparent in this investigation that female students were more likely to verbalize this fear and lack of self-esteem. The investigated students were also of the opinion that lack of self-esteem is one of the reasons why people do not study. The authors, however, formulate the seemingly opposite hypothesis that:

"Lack of self-esteem is one of the reasons why certain adults study. Several of the students, among other reasons, seem to study in order to strengthen unstable self-esteem or, in order to discover themselves. They often believe that other people are afraid of studying and interpret this behaviour in terms of self-esteem because this is the very problem which is of current interest for themselves. Those who do not study, more often seem to have come to terms with themselves and have a more stable notion of what they can and cannot do" (Johansson & Ekerwald 1976, p 158).

We shall now go a step further and see if the sub-groups differed in this respect.

Increased self-esteem was more frequent among students, especially female ones, who had no previous experience of university studies (Table 11.19). The older the student when he/she began distance studies, the more his/her self-esteem increased. This result is in line with the findings of Johansson and Ekerwald (1976) especially regarding the poor self-esteem of female students and their need to find adequate forms of strengthening it via education. The distribution of answers according to motive for studying, revealed no differences (Table 11.20). Here, it is important to remember that the relationship between education and self-esteem is a complex one in many ways.

In our material, we saw clearly that increased self-esteem was related to various factors or areas, which quite likely can be explained by the varying previous experiences and levels of aspiration of different students or groups of students. In this connection, we must also pay attention to the values prevalent in society, in

Table 11.19. Proportion of students who have increased their self-esteem as a result of the distance course, distributed according to educational background and sex. Per cent.

Answer	Previous university studies		No previous university studies	
	M %	F %	M %	F %
Increased self-esteem	5	15	18	38
N	146	114	100	94
Reason				
succeeded with studies	25	29	22	42
general or unspecified	-	29	44	22
increased knowledge	38	29	6	22
positive effedt on work	25	6	22	8
social	13	6	6	6
Total	100	100	100	100
N	8	7	18	36

this case, primarily those concerning education, but even those concerning professional roles versus, for example, the rôle of the housewife (cf. Holter 1973, Wernersson 1980). We have shown earlier on, that different professions and training are associated with differences in social status and that status influences the individual's evaluation of himself.

Theoretical studies have been rated higher than practical studies, for example, by teenagers. In our society, education has been an important political question during the last decades, used to effect changes in society or, at least, increase the possibility of change. Thus, education in itself, can mean something important to the individual and failure in this area may have a negative effect. The interaction between the life-situation and past experiences of the individual and participation/non-participation in education is complex, but considering how much money and effort is being invested in education in many parts of the world, we ought to try and acquire more knowledge on the subject. Naturally, it would have been interesting for us to investigate the students who dropped out of studies at an early stage, in order to see what effect this had had on their self-esteem, but unfortunately this was not possible within the framework of the project.

Table 11.20. Proportion of students who have increased their self-esteem as a result of the distance course, distributed according to age, sex and motive for studying. Per cent.

Answer	Age 25-34		35-44		45-	
	M %	F %	M %	F %	M %	F %
Increased self-esteem	8	20	11	32	13	26
N	102	88	82	73	62	47
Reason						
succeeded with studies	22	50	33	26	13	42
general or unspecified	33	28	33	22	25	25
increased knowledge	33	17	-	39	13	8
positive effect on work	11	-	11	9	38	17
social	-	6	22	4	13	8
Total	100	100	100	100	100	100
N	9	18	9	23	8	12

	Occupational change motive		General educational motive	
	M %	F %	M %	F %
Increased self-esteem	11	29	10	23
N	96	84	150	124
Reason				
succeeded with studies	36	29	13	45
general or unspecified	27	25	33	24
increased knowledge	18	33	13	17
positive effect on work	18	4	27	10
social	-	8	13	3
Total	100	100	100	100
N	11	24	15	29

12. Occupational situation before and five years after the distance course

Distance education, like other part-time university studies, is primarily intended for people who work or who, for other reasons, cannot pursue full-time studies. The majority of the students in our previous evaluation, indeed, were employed (Chapter 6.2). Male students were engaged in professional work and also full-time professional work, to a greater degree than female students.

In the follow-up study, carried out five years after the distance course, we asked once again about the occupational situation of the students in order to see if it had changed over the past five years.

Table 12.1 shows the students' main occupation before commencing distance studies and what they were engaged in five years later.

As we expected, the occupational situation of the male students was very stable. Only 6 per cent had experienced a change in their situation during this period. The corresponding figure for female students was 38 per cent. Ninety per cent of the men were fully employed both before and five years after the distance course. About 50 per cent of the women now worked full-time. There was a slight increase during the period in question. A third of the women had now part-time work compared to only 3 per cent of the men. Thirty per cent of the women said they worked at home, compared to 1 per cent of the men. On both occasions more women than men said that they were engaged in full-time or part-time studies.

Thus, the change in the situation of the male students was minimal (6 %). The most common reason for change among men was that of retirement. Women, as a group, showed a greater frequency of change. Thirty-eight per cent had changed their situation in some respect. The proportion working at home had decreased by 8 per cent. Changes from part-time to full-time work could also be seen.

Figure 12.1 illustrates the changes in employment for the different sub-groups during the five year period. The other variables are not presented here as the changes were only marginal ones and have been reviewed in a previous report (Willén 1981).

Figure 12.1 illustrates the above mentioned fact that it was the female students who manifested the highest frequency of change, especially those who had not previously studied at university, those who began studying to change their occupational situation and those over the age of 45 (cf. Ashton & Maquire 1980, Keil & Newton 1980).

We shall now go on to give an account of changes in the occupational situation itself, independent of whether the student worked full-time or part-time. We were

Table 12.1. Occupational situation before and after the distance course, distributed according to sex. Per cent.

	Male %	Female %	Total %
Professional work			
Full-time: Before	93	51	75
After	93	54	76
Part-time: Before	3	29	14
After	3	33	16
Looking for work			
Before	1	2	2
After	1	2	2
Works at home			
Full-time: Before	-	18	8
After	-	11	5
Part-time: Before	1	11	5
After	1	12	5
Studies			
Full-time: Before	2	4	3
After	2	5	4
Part-time: Before	-	9	4
After	-	5	2
Change	6	38	20
N	323	251	574

Table 12.2. Change of occupational situation, distributed according to sex. Per cent.

Answer	Male %	Female %	Total %
Change in occupational situation	42	51	46
N	323	251	574
Type of change			
Changed jobs	68	45	56
Changed teaching job (school)	24	25	25
Stopped working	3	7	5
Found work	5	23	14
Total	100	100	100
N	136	129	265

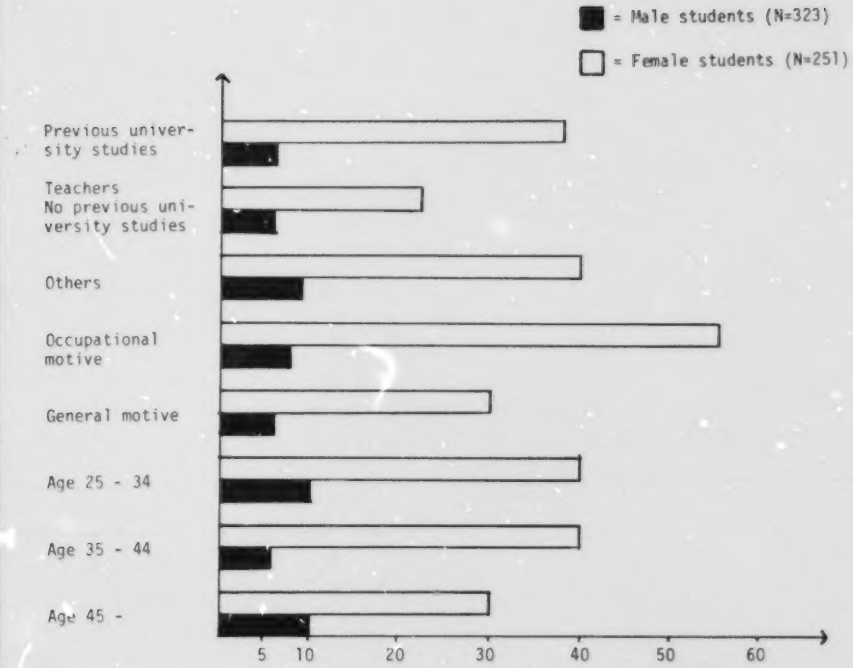

Figure 12.1. Change of occupation during the period from before the distance course to four years after the course, distributed according to educational background, motives for studying and age.

interested in finding out how many students had changed their occupational situation during the investigated period. Table 12.2 shows that 46 per cent of the total group had changed their occupational situation in one way or another and that this was more usual among the female students. Of the 265 people who made some change in their occupational situation during the investigated period, more than half had changed jobs, that is to say, their own job descriptions pointed to a definite change. Men were in the majority in this group.

A quarter of this group consisted of teachers who had changed schools but who still taught the same subject. Here there were no sex differences. Five per cent of the group had stopped working, some having retired. Forty-one per cent had found work during the period. This was much more usual for women (23 %) than for men (5 %). However, this was not surprising as the men had a high rate of employment even before the distance course, and we already know that their occupational situation was extremely stable during the period in question.

While on this subject, it is interesting to see if changes in occupational situation were associated with any particular sub-group.

Educational background was seen to co-vary with a changed occupational situation (Table 12.3), above all, for those without previous experience of university studies and who were not trained teachers. There was a marked difference between male and female students in this respect. It was also more usual for this group to have found work during the period in quesiton. A third of the group with previous experience of university studies had changed their occupational situation as a teacher by changing schools.

The motive for commencing distance studies proved to be an important factor in effecting changes in occupational situation (Table 12.4). Those who started distance studies because they wished to change their occupational situation succeeded in doing so more often than those who began to study in order to increase their general knowledge. The majority of the former group (67 %) have, indeed, altered the nature of their occupational tasks, but we do not know if this was an effect of the distance course or some other factor.

The younger the student, the more usual it was for them to have changed their occupational situation during the period in question (Table 12.5). About a third of the female students under 35 years of age who changed their occupational situation during this period, did so by starting to work. The greatest number of students, both male and female, who had changed their teaching jobs by changing schools, was to be found in the older age groups.

Table 12.3. Change in occupational situation from the commencement of the distance course to five years after, distributed according to previous educational background. Per cent.

Answer	Previous experience of university studies		No previous experience of university studies			
			Teachers		Others	
	M %	F %	M %	F %	M %	F %
Changed occupational situation	42	49	25	53	45	55
N	192	144	20	19	111	88
Type of change						
Changed jobs	59	40	40	-	84	61
Changed teaching jobs (school)	37	34	60	70	-	-
Stopped working	2	6	-	30	4	4
Found work	2	20	-	-	12	35
Total	100	100	100	100	100	100
N	81	71	5	10	50	48

Table 12.4. Change of occupational situation from the commencement of the distance course to five years after, distributed according to motives for studying. Per cent.

Answer	Occupational change motive		General educational motive	
	M %	F %	M %	F %
Changed occupational situation	54	58	34	46
N	125	105	198	146
Type of change				
Changed jobs	75	54	61	37
Changed teaching jobs	18	18	31	31
Stopped working	4	7	1	7
Found work	3	21	7	25
Total	100	100	100	100
N	68	61	68	68

Table 12.5. Change in occupational situation during the five year period, distributed according to age. Per cent.

Answer	Age 25-34		35-44		45-	
	M %	F %	M %	F %	M %	F %
Changed occupational situation	55	63	32	41	32	44
N	142	109	112	85	69	57
Type of change						
Changed jobs	74	42	69	57	41	44
Changed teaching jobs (school)	19	23	31	17	36	40
Stopped working	1	7	-	9	14	-
Found work	6	26	-	17	9	16
Total	100	100	100	100	100	100
N	78	69	36	35	22	25

In brief, we may conclude, quite generally, that the professional commitment of the women in our study, varied in a totally different manner to that of the men, during the invesitgated period. Thirty-eight per cent of the women experienced some change in their occupational situation, compared to 6 per cent of the men. The overall number of gainfully employed women increased, a result which is confirmed by other investigations from the 1970's (Petterson 1979, SOU 1979:89). Petterson gives us the following explanation: "Naturally this has to do with the traditional division of labour between men and women, which places the main responsibility for the care of the home and children on women. Apart from this, women have had small possibilities of working because of other factors such as the lack of places at day-care centres, discrimination of women etc." (Petterson, 1979, p 35).

The greatest changes are in the group of women without previous experience of university education and who began distance courses for the purpose of changing their occupational situation, and also among women under the age of 45.

Forty-six per cent of the investigated group changed their occupations in one way or another, female students more often than male students. More than half of these people completely changed their jobs, although here, male students were in the majority.

The above mentioned Government Commission (SOU 1979:89) on the situation of women on the labour market, shows how complex the housewife/professional role is for the majority of women nowadays. Among other things, the report of the Commission reveals that many housewives would like to work outside the home, many women who do so would like to be able to stay at home, some women would like to work more, some would like to work less.

13. The educational situation after the distance course

13.1 Educational organization—a short presentation

During the last two decades, adult education in Sweden has expanded rapidly. Behind this expansion lie several political resolutions (Prop. 1967:85, Prop. 1975:23) partly based on the ideal of equality in the field of education (see also Coleman et al. 1966, Coleman 1973). During recent years, the compulsory school system has been extended so that, compared to before, everyone has a relatively long basic education. The investment in adult education is partly to provide older generations with the possibility to educate themselves and supplement the schooling they received as children.

Financial resources have been increased generously. This has led to an increase in the number of participants in adult education and also in several changes in the forms for education.

Swedish adult education may give the impression of being confusing as a great variety of courses is offered and sponsored by different organizations.

The following organizers of adult education are listed in an investigation of the living conditions of Swedish people carried out by the Central Bureau of Statistics (SCB, 1976):

1. *Educational associations* (e.g. the Workers' Educational Association (ABF), the School for Adult Education, the Citizens' School, the Salaried Employees' Educational Associaiton, Departments of Extra-mural Studies). The courses organized by these associations usually run for one term with studies concentrated to one evening a week. The dominating subjects are languages, arts and crafts and the social sciences.

2. *Correspondence schools*, run by the Correspondence School, the Correspondence School fo the Armed Forces, Hermods, the Correspondence School of the Federation of Swedish Farmeers etc. Correspondence education is often combined with other forms of education such as study circles and weekend courses.

3. *The employer*. This includes in-service training for people employed by the Government, Municipal Authorities or private companies. It also includes courses organized by the trade associations and the employers' association. These are usually short, vocational courses held during working hours.

4. *Trade unions*. Courses are very varied and deal primarily with subjects wihtin the social sciences.

5. *The Labour Market Board* (AMS). The Board aims at providing every individual with

employment and at increasing training in professions where there is a lack of trained workers. A person must be unemployed or threatened with unemployment to be eligible for these course.

6. *Radio/TV*. Provides varied courses which can be combined with text-books and study circles.

7. *People's Colleges*. These mainly hold winter courses (34 weeks) and shorter courses on special subjects. Students must be at least 18 years of age.

8. *Municipal adult education*. This education corresponds to the comprehensive school and the upper secondary school as regards content and qualifications.

9. *University/higher education* (See Chapter 1).

A relatively large number of investigations have been undertaken in Sweden, to find out how many people are engaged in some sort of educational activity (Johansson & Molander 1969, Bromsjö 1970, Lekberg & Lekberg 1971, Rubenson 1975, 1976, SOU 1977:92, SOU 1978:41). Several of these investigations point to the great variety of courses offered and the large number of participants.

One investigation which gives a good picture of adult education in Sweden is the investigation of people's living conditions carried out by the Central Bureau of Statistics (SCB 1976). The main aim of the investigation was to "continuously throw light on the distribution of central welfare facilities in order to provide a basis for public debate and reform work" (SCB 1976, p 1).

We shall now present a part of this investigation which was carried out in 1974, and comprised the following areas: formal education, participation in studies, interest for studies, obstacles in the way of studies, language comprehension and the occupation and income of different educational groups. We shall discuss only some of the results. In this investigation, the term "adult education" is a somewhat deceptive one, as the information was obtained indirectly from data on participation in studies classified according to the organizer of the course, the content of the course and age group.

The investigation reveals that 28.8 per cent of the Swedish population between the ages of 16–74, participated in some form of studies during the course of a year. It is important to note that the proportion decreased very rapidly with increasing age.

It is quite clear that it was mainly those who already had a good education who utilized the variety of adult courses offered. Compared with 46.8 per cent of those with some form of higher education, a mere 20.7 per cent of those with only compulsory schooling participated in some form of studies.

It was mainly people with qualified jobs who took advantage of the total number of courses offered. There was a consistent trend for those who worked during the day to participate somewhat more often than those with irregular working hours. Different types of studies were favoured during different phases in

the family cycle. In the group of younger people without children, those who were cohabiting, were more likely to have participated in some type of study activity than people who lived on their own. In the group of cohabiting parents with small children, the father more often seemed to be the one to study. Forty-one per cent of office staff and technicians study, compared to 24 per cent of buisnessmen and those employed in production and distribution.

The educational associations', employers' and municipal adult educational programmes attracted the largest number of participants over the age of 24.

The majority of participants in the courses organized by the educational associations were women, whereas the opposite was true of course organized by employers.

The subject and type of studies varied according to age and sex. 4.6 per cent of those aged 24—44 and 1.6 per cent of those aged 45—64 participated in some form of professional training during the investigated period. Participation in studies for those over the age of 25 was dominated by shorter courses and study circles. Women tended to choose course in crafts or languages while men preferred courses in field of economy and business administraiton or in the social sciences.

The investigation shows that many studies took place during working hours.

One of the major practical problem in latter years has been how to reach those who are really in need of education. Critics of the system have often pointed out that it is the well-educated who benefit by the increased provision of adult education (cf. Broström & Ekeroth 1977).

Another problem is the difficulty in obtaining an overall picture of reality in the field of adult education. What is it that steers an individual towards adult education? What factors are important? In the present investigation, we have tried to look at some of these problems in greater detail. Instead of studying them from the perspective of number of pupils per course, or some similar, superficial data, we have tried to follow the educational activities of groups of people over a longer period of time. On the ground of previous investigations, it is easy to come to the conclusion that if an individual has, for example, started to follow shorter courses at the university, he or she will continue to do so—a fact which is not at all certain. Instead, it is essential to try and see the person or group of people in their individual life-situaiton (cf. e.g. Rubenson & Höghielm 1978).

In the "UPPÅT"-project (Dahllöf & Westin 1977), of which this investigation is a part, the concept of recurrent education is defined in the following way: "... a basic principle for planning education aimed at creating guaranteed opportunities for the majority of citizens to receive education during the greater part of their life-cycle and, furthermore, education with a content, in a form and at a time which best meets the needs of the individual. If this is so, it is a problem which affects large areas of the educational sector, especially those which come under the heading of secondary education and post-secondary education, which includes adult education. But recurrent education also has far-reaching effects on the

labour-market, economy and social policy" (Dahllöf & Westin 1977, p 1).

In the above quotation, the complexity of this problem area is clearly illustrated. Within the framework of the "UPPÅT"-project, we have attempted to throw some light on this complexity with the help of several separate investigations.

13.2 Participation in studies during a five-year period

We now turn to the results of this part of the investigation, i.e. the educational activities during a five-year period of a group of people who pursued distance studies at a Swedish university, during the academic year 1974/75.

As we have previously said, we regard it essential to study adult educational activities from the standpoint of the individual's circumstances and over a longer period of time. This was important if one is to understand why a certain study alternative is chosen, and therefore also important for the planning of adult education. Usually, only recruitment to one type of education at a time has been studied. Nor have we found any investigation which follows educational activities over a long period of time.

First let us see how usual it was for a person to continue educational activities after participating in a distance course. Participants were studied over a five-year period. After the distance course a surprisingly large proportion of the investigated group (79 %) continued to study in an organized form at some time during the following four year period. It can be seen from Figure 13.1 how complex the educational situation was when studied in this way. It is clear that an individual can have had contact with more than one educational alternative or organization. Indead people often alternated between different types of education as regards both organizer, level and contact.

In the investigated group, there was a predominance of people with an academic education (68 %). Fifty-five per cent had some other form of education. However, almost every third person had experience of both forms of study during the period in question.

Let us concentrate for a moment on the students who continued with higher education. From now on the term "higher education" will be used instead of "university studies", as the information refers to the time after the reform of higher education in 1977. More than half of these students chose another distance course. To this number may be added a group of students who pointed out that they would have taken a distance course again, had the right one presented itself. Almost half (46 %) have participated in evening classes.

It was, however, surprising that as many as 22 per cent answered that they had studied full-time at some point or other during the past five years. This meant that if these people were employed, they must have had leave of absence for long periods. This, indeed, was the case for some students, above all, for those who

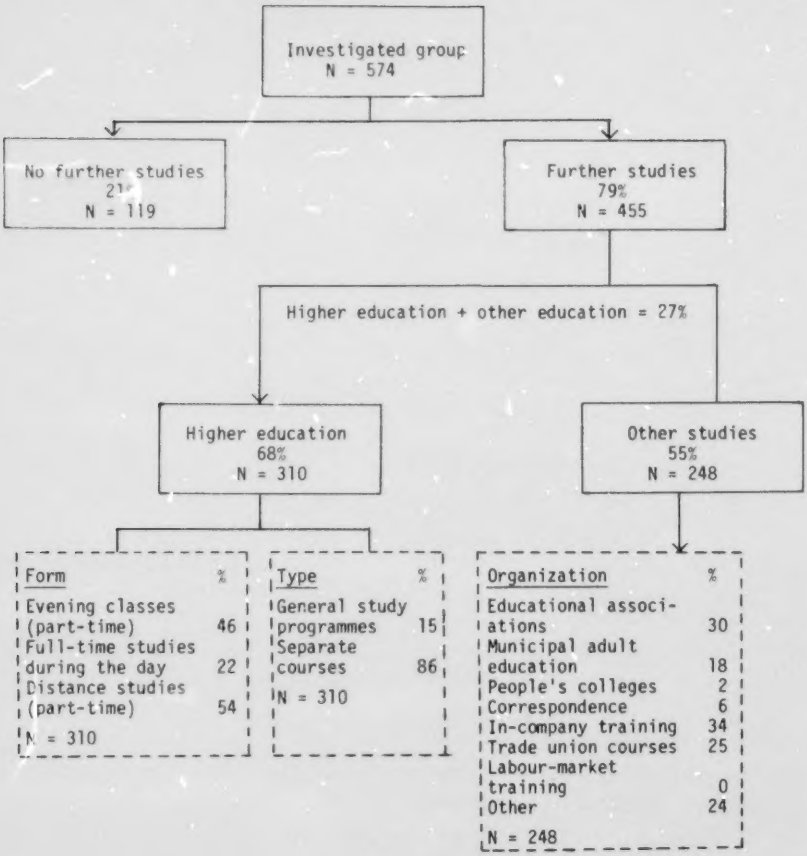

Figure 13.1 Educational activities of the investigated groups during a five-year period.

were accepted for special teacher training. Nevertheless, most students pursued full-time studies parallel to a full-time job and, in spite of this, managed for the most part to achieve good results. These students must have had extremely flexible working hours for this combination to be possible. More than 85 per cent of those who continued university studies after the distance course, enrolled for separate course and only 15 per cent enrolled for one of the existing general study programmes.

Besides university studies, there are a number of educational alternatives which fall under the heading of recurrent education. More than half of the investigated group (55 %) had participated in such studies. The most attractive of alternatives, turned out to be in-company training, municipal adult education, educational

associations and trade union courses. As we see in Figure 13.1, some people had participated in several different courses during the investigated period.

The contents of the category "other" should be clarified. This category mainly comprises courses for teachers in the general school system, i.e. often courses organized by the National Board of Education. In a few cases, the answers did not specify the type of studies pursued and were therefore inlcuded under "other".

13.2.1 Higher education

We shall look now at the educational activities of various sub-groups during the five-year period.

The first classification is according to sex (Table 13.1). The material was divided into two groups, those who had studied at the university and those who chose other forms. Let us start by taking a look at those who studied at the university.

In all, 54 per cent of the investigated group, slightly more women than men, continued with some form of higher education during the period form the Autumn term 1975 to the Spring term 1979. Women more often participated in a general study programme and consequently studied full-time. In the group as a whole, 15 per cent had commenced one or other of the available study programmes. We shall see later which programmes were chosen.

As regards the available forms of study, the difference between the sexes was small. Women were somewhat more likely to have attended evening classes and men somewhat more likely to have chosen distance studies. The total number of students choosing the different forms came to more than 100, as a person could have pursued studies in more than one form during the five-year period.

The study results presented in this section, do not include the results of the distance course 1974/1975. This means, therefore, that a large proportion of the investigated group had at least another 20 points which are not accounted for here.

More than a third of the students had taken at least 40 points, 20 per cent at least 60 points and 10 per cent at least 80 points during the period in quesiton. Women had somewhat better results than men. Note that only 7 per cent of those who said they had studied at university had not succeeded in taking any points at all during this period.

When the material is classified according to educational background (before the distance course) no great differences were found between the groups, regarding participation in continued higher education (Table 13.2).

Those without experience of university education before the distance course had continued with some form of higher education to the same extent as those with previous university experience.

Table 13.3 presents the study programmes chosen by the investigated group. There was considerable variation. Eleven people started some sort of teacher training and 12 chose economics and business administration. Note that the

Table 13.1. Higher education after the distance course. Available forms, general study programmes/short courses and number of points taken, distributed according to sex. Per cent.

	Male %	Female %	Total %
Higher education after the distance course	51	57	54
N	323	251	574
Type			
General study programme	13	17	15
Separate course/courses	89	83	86
Total	100	100	100
N	166	144	310
Form			
Evening classes (part-time)	43	49	46
Fulltime studies during the day	20	23	22
Distance studies (part-time)	56	52	54
Total	119	124	122
N	166	144	310
Number of points taken			
0 - 20 points	57	62	59
21 - 40 points	37	40	38
41 - 60 points	21	24	22
61 - 80 points	10	14	11
81 - 100 points	5	6	5
N	166	144	310

teacher training programmes were chosen by teachers and by those with previous experience of university studies. Possibly the distance course provided the necessary qualification for acceptance to a restricted course such as special teacher training. Otherwise there was a widespread variety of studies. Those without previous experience of university studies usually enrolled for a course within the Faculty of Arts. Both groups were very much alike as regards choice of separate courses or study programmes.

Clear differences emerged, however, when the group was divided according to motive for studying (Table 13.4). Those who participated in the distance course 1974–75 with the objective of changing their occupational situation were more likely to have continued with some form of higher education than those who

Table 13.2. Higher education after the distance course. Type of study, form of study and number of points taken, distributed according to educational background. Per cent.

Answer	Previous university studies		No previous university studies			
			Teachers		Others	
	M %	F %	M %	F %	M %	F %
Higher education after the distance course	53	56	70	74	45	56
N	192	144	20	19	111	88
Type						
General study programme	11	19	21	21	14	14
Separate course/courses	91	81	79	79	86	86
Total	100	100	100	100	100	100
N	102	81	14	14	50	49
Form						
Evening classes (part-time)	42	43	43	36	46	63
Fulltime studies during the day	21	26	36	43	16	12
Distance studies (part-time)	57	48	43	50	58	59
Total	120	117	122	129	120	134
N	102	81	14	14	50	49
Number of points						
0 - 40 points	63	67	71	43	58	54
41 - 80 points	27	23	28	35	28	31
81 - 100 points	11	11	-	21	14	14
Total	100	100	100	100	100	100
N	102	81	14	14	50	49

studied for general educational reasons. Of the group which continued to study at university level, students with a general educational motive were more likely to have chosen distance studies. This may depend on the fact that they do not have to follow certain pre-determined courses but had more freedom of choice and could, therefore continue distance studies even though the variety of available courses was very limited in some cases.

Those who studied to change their occupational situation must read set subjects and were therefore forced to adjust to the available study form.

Table 13.3. Higher educational programmes chosen by the investigated group, distributed according to educational background. Total number of students

Study programme	Previous university studies		No previous university studies Teachers		Others		Total	
	M %	F %	M %	F %	M %	F %	M %	F %
Teacher training programmes	-	5	-	1	-	-	-	6
Special teacher training	1	3	2	1	-	-	3	4
Pre-school teacher training	-	1	-	-	-	-	-	1
B.A.	1	1	1	1	2	1	4	3
B.A. (economics and business administration)	2	4	-	-	4	2	6	6
Psychology	-	1	-	1	1	1	1	3
Vocational guidance					1	1	1	1
Law	3	-		-	-	-	3	-
Medicine	1						1	
Post-graduate research	2						2	
Industrial safety engineering	1						1	
Institute of technology	1						1	
Advanced interpreting	-					1	-	1
School of Navigation	-				1	-	1	
Total	12	15	3	4	9	6	24	25

The interest for studies at a higher level declined with increasing age for men (Table 13.5), whereas women more often studied at university level as they became older (45 years and onwards). This was probably due to women being fully occupied with work, children and family in younger years. As expected, enrollment for general study programmes was more common among the younger people. Distance studies were favoured most by younger men and older women.

Table 13.4. Higher education after the distance course, type of studies, study form and number of points, distributed according to study motive. Per cent.

	Occupational motive		General educational motive	
	M %	F %	M %	F %
Higher education after the distance course	60	65	46	52
N	125	105	198	146
Type				
General study programme	17	22	9	13
Separate course/courses	83	78	93	87
Total	100	100	100	100
N	75	68	91	76
Form				
Evening classes (part-time)	48	47	40	51
Full-time studies during the day	19	26	22	20
Distance studies (part-time)	51	47	60	57
Total	118	120	122	128
N	75	68	91	76
Number of points				
0 - 40 points	60	52	64	69
41 - 80 points	28	32	27	22
81 - 100 points	12	16	10	13
Total	100	100	100	100
N	75	68	91	76

Table 18.5. Higher education after the distance course, type of studies, study form and number of points, distributed according to age. Per cent.

	Age 25-34		35-44		45-	
	M %	F %	M %	F %	M %	F %
Higher education after the distance course	56	51	49	54	45	74
N	142	109	112	85	69	57
Type						
General study programmes	16	23	11	22	6	5
Separare course/courses	86	77	89	78	94	95
Total	100	100	100	100	100	100
N	80	56	55	46	31	42
Form						
Evening classes (part-time)	46	52	36	50	48	45
Full-time studies during the day	16	30	22	26	29	10
Distance studies (part-time)	58	36	60	54	45	71
Total	120	118	118	130	122	126
N	80	56	55	46	31	42
Number of points						
0 - 40 points	63	58	62	67	61	57
41 - 80 points	28	23	31	22	19	34
81 - 100 points	10	20	8	11	19	9
Total	100	100	100	100	100	100
N	80	56	55	46	31	42

13.2.2 Other forms of education

As we pointed out at the beginning, there is a large variety of adult education to choose from. When we asked our group if they had participated in any other form of adult education apart from higher education, we found that more than 40 per cent had done so (Table 13.6). We also asked them to specify the type of education. A number of people, mostly men, had participated in several different study programmes during the investigated year period. The most common forms of study for men were in-company training (45 %), trade union courses (29 %) and educational associations (25 %). Women had most often participated in courses run by educational associations (37 %), municipal adult education (22 %) in-company training (19 %) and trade union courses (19 %). Very few people had studied by correspondence, attended people's colleges or participated in labour-market courses.

Of the 24 per cent who stated that they had participated in some other form of education, many proved to have attended courses for teachers organized by the National Board of Education or political courses organized by political parties.

The study alternatives mentioned in this section are all different in both form and content. In-company training and trade union courses are entirely related to the individual's own occupational situation and often take place during working

Table 13.6. Participation in adult education other than higher education, distributed according to sex. Per cent.

	Male %	Female %	Total %
Participated in adult education (not higher education)	45	41	43
N	323	251	574
Organization			
Educational association	25	37	30
Municipal adult education	15	22	18
People's colleges	3	2	2
Correspondence courses	6	5	6
In-company training	45	19	34
Trade union courses	29	19	25
Labour-market courses	-	1	-
Other	27	20	24
Total	150	125	139
N	144	104	248

Table 13.7. Participation in adult education other than higher education, distributed according to educational background and sex. Per cent.

	Previous university studies		No previous university studies			
			Teachers		Others	
	M %	F %	M %	F %	M %	F %
Participated in adult education (not higher education)	44	38	40	37	46	49
N	192	144	20	19	111	88
Type						
Educational association	31	46	-	14	20	28
Municipal adult education	12	11	50	57	14	28
People's colleges	1	2	13	-	4	2
Correspondence course	2	-	13	14	12	9
In-company training	34	19	50	-	63	23
Trade union courses	28	19	63	14	25	21
Labour-market training	-	2	-	-	-	-
Other	34	24	50	-	12	19
Total	142	123	209	99	150	130
N	85	54	8	7	51	43

hours. The other alternatives are confined almost exclusively to leisure-time and have to be paid for in most cases. Courses under the auspices of the educational associations are on all levels, from university courses to courses in crafts.

Let us see if the different alternatives attracted different groups of students.

First, we can establish that the differences among female students can be explained by their differing educational background (Table 13.7). Women without preivous university experience participate more often in these forms of study than women who had studied at university. "Well educated" women more often participated in courses organized by the educational associations, but less often in municipal adult education, than women with less education.

In-company training was more common among men without experience of university studies before the distance course. More than 60 % of those who had studied had done so in the form of in-company training. Table 13.8 shows that the proportion of men who participated in in-company training was largest for those who had occupational motives for studying, possibly because this training provided a chance of changing one's situation at work (SOU 1976:61, SOU 1977:92). Men with occupational motives for studying participated in more

Table 13.8. Participation in adult education other than higher education, distributed according to study motive and sex. Per cent.

	Occupational motive		General educational motive	
	M %	F %	M %	F %
Participated in adult education (not higher education)	43	35	45	46
N	125	105	198	146
Type				
Educational association	28	27	23	42
Municipal adult education	20	22	11	22
People's college	6	3	1	1
Correspondence course	11	3	3	6
In-company training	57	22	38	18
Trade union course	22	16	33	21
Labour market course	-	3	-	-
Other	31	27	24	16
Total	175	123	133	126
N	54	37	90	67

courses than other students. The average number of courses for this group was 1.8.

Women with general educational motives for studying participated in educational association courses and trade union courses more often than women with occupational motives for studying. This difference was not found among the men.

Age appeared to play a rôle in the choice of certain study alternatives (Table 13.9). In-company training was far more usual for men under the age of 35 than for those over 45. This difference did not appear among the women. We have already established that they did not participate in this type of studies as often as men. On the other hand, educational associations, trade union studies and municipal education were the most common alternatives for women over the age of 45. Older women and younger men participated in most courses of the types mentioned here.

It is interesting to see how many of those who continued with higher education after the distance course, also spent time on other forms of education during the investigated period (Table 13.10). Higher education was often combined with in-

Table 15.3. Participation in adult education other than higher education, distributed according to age and sex. Per cent.

	Age 25-34		35-44		45-	
	M %	F %	M %	F %	M %	F %
Participated in adult education (not higher education)	42	39	48	44	45	44
N	142	109	112	85	69	57
Organization						
Educational association	24	45	31	27	16	36
Municipal adult education	15	14	11	22	19	36
People's colleges	2	-	4	3	3	4
Correspondence courses	3	2	9	-	6	16
In-company training	59	19	39	19	19	20
Trade union courses	25	14	28	11	29	36
Labour market courses	-	-	-	3	-	-
Other	27	12	26	30	29	20
Total	155	106	148	115	121	168
N	59	42	54	37	31	25

company training, trade union courses and courses organized by the educational associations. In all, 21 per cent, an equal proportion of men and women, have combined higher education with some other form of studies during this period.

When the material was divided into sub-groups, the same pattern emerged as before, regarding these educational alternatives and therefore they are not presented here (see Willén 1981).

The main results can be summed up thus: the majority of those who followed some distance course or other, continued to study during the following period. Higher education appealed, above all, to younger men and older women who had started studying for educational reasons. Almost half the group had also tried other study alternatives. People's colleges, labour-market training and correspondence courses attracted very few of the people in our investigation. Educational associations mostly appealed to younger, well-educated women, with general educational motives for studying. Women with less education often chose municipal adult courses. In-company training recruits most of its participants from among the less-educated younger men who wished to improve their occupational situation. Trade union courses attracted somewhat older men and women with general educational motives for studying.

Table 13.10. Proportion of students who have combined higher education with other educational alternatives, distributed according to sex. Per cent.

	Male %	Female %	Total %
Combined studies	21	21	21
N	323	251	574
Type			
Educational association	25	35	29
Municipal adult education	14	19	17
People's colleges	1	4	2
Correspondence course	6	8	7
In-company training	35	19	28
Trade union course	28	19	24
Labour market training	-	-	-
Other	30	33	31
Total	139	137	138
N	69	52	121

Part V

Summary and discussion

14. Summary of main results

14.1 Problem area

In this chapter, I shall recapitulate the main results of the evaluation, in order to be able to discuss them in the following chapter. In recent years, an important educational goal in Sweden has been to increase the accessibility of higher education, making recurrent education available even for employed adults living out of reach of the university towns. Part-time evening classes, decentralized university education and distance education are some of the means of achieving this goal (Dahllöf, Kim & Willén 1978). Even though there has long been an adult element in higher education, mainly in the Faculty of Arts and Sciences and then often compulsory school teachers seeking to better their qualifications, adult students now constitute a new large group which, if the aim of recurrent education is fulfilled, will provide a considerable flow of students to higher education for many years to come (Kim 1979).

Higher education for adults can also be seen in a wider perspective, as adult education in Sweden has increased markedly in the last decade as the result of many discussions and decisions concerning educational policy (see e.g. Prop. 1975:23, Johansson 1970, Broström & Ekeroth 1977).

Distance education was carried out on an experimental basis for five years (1973–1977). The initiative was taken by the 1968 Government Commission on Education (U68a).

The organization of distance education in Sweden is very different from e.g. the Open University in England, which operates according to a central model and makes use of broadcasting. The Swedish model is highly dencentralized. The responsibility for carrying out distance education rests with the individual university departments, which at the same time organize other forms of university education.

Distance education exists in many countries and on many different levels. It can be used to supplement both the regular school system and education outside of the school system. In latter case it often takes the form of private correspondence schools (see Kaye & Rumble 1979). Internationally, there are two main models for distance education:

a) A strongly centralized model, often based on the use of broadcast media. Examples of this model are the Open University in England (Scupham 1975) and Fern Universität in Western Germany (Peters 1978, 1979).

b) A more decentralized model making little or no use of broadcast media. Swedish distance education follows this model as does distance education in Australia (OTE 1974, 1975, Northcott 1975).

There have been surprisingly few investigations of distance education considering that it has been widely in operation for many years. There are, however, a large number of descriptions of various sytems and organizations (see e.g. Robinson 1975). A number of recruitment investigations have been published in recent years, but a more systematic evaluation of the function of distance education is rare (see e.g. SOU 1975:72). However, in connection with the founding of new distance universities in e.g. Western Germany and England (McIntosh 1971, 1979), there has been an increase in the number of research projects in this area. Both the above universities have research departments (see e.g. Ljoså 1978, Kendall 1980). McIntosh (1974b) points out the difficulties of evaluating multi-media educational systems. UKÄ (The Office of the Chancellor of Swedish Universities) was the authority responsible for the experimental activities and decided which courses were to be organized. The experimental period was primarily to be used to test different methods of teaching students who came to the university only for short periods. The following aids were used in distance teaching: Course-books, comments on the course-books, study guides, sound casetters, telephone, letters, radio and meetings (Willén 1974a, 1975c, 1975d, 1979).

The experimental activities with distance education were initiated in the Autumn term 1973 with seven courses. Thereafter, the activities expanded rapidly. The courses were carried out at a slower study pace. During this period, Umeå University has had a rather unique position because of the exceptionally large number of courses offered, compared to other universities.

When evaluating distance education, our goal was to give as comprehensive picture as possible. Therefore we attempted to cover a number of different aspects which we considered important factors for the experimental activities. Much of the evaluation deals with aspects of the students' study situation, e.g. their educational background and study problems, their use and opinion of distance overbridging aids, study results and the social and psychological implications of distance education for the individual. The material has mainly been collected with the help of questionnaires, although interviews and forms for the registration of telephone calls were also used. The core of the evaluation is comprised of a panel investigation of distance students who began one of the 41 available courses during the academic year 1974–1975. The teachers' work and attitudes are also taken up, among other things to illustrate the extent of change distance education brought about in the work situation of teachers. The evaluation also comprises some special studies.

Results have been published at intervals during the course of the evaluation project in order to provide the participating universities and decision-making authorities with continuous information about the progress of the experimental

activities. Thus, thiu report is one of a series describing distance education at Swedish universities. As it summarizes almost all the material hitherto collected, we have been forced to condense much of the information from previously published reports.

The evaluation mainly studies the courses which started in the academic year 1974–1975. Forty-one courses were organized during this period. Umeå University had the largest number of courses (17) and the University Branch at Växjö the lowest number (2) (see Chapter 2). In all 1,548 students began studies during this period. In the analysis, the material was divided into subject groups, as the numbers were sometimes too small after further division according to sex, age and educational background, to permit the analysis of each variable for individual subjects. The division into subject groups is based on the similarity between subjects. The analysis does not aim at studying individual subjects at a certain university in detail, but at discovering general tendencies of importance for planning which courses to offer and for deciding on the general policy regarding the organization of distance studies. For this purpose an analysis at subject group level ought to be adequate.

The evaluation was carried out during the early days of distance education, a fact which can have had both positive and negative effects on the results. An example of the former is the positive selection of students who previously had no opportunity to participate in such studies. A further positive factor was the limited number of students per course. Thirty students were accepted the first time a course was held. Following courses took up to 60 students. The short time departments had at their disposal for planning must be considered a negative factor. Further, teachers had no possibility of special training in distance or correspondence teaching. The production of teaching material suited to the special needs of distance education had also to take place during the run of the course and without any particular help from experienced coleagues.

It is naturally difficult to estimate the effects of these positive and negative factors on the results of the evaluation and it is quite possible that the effects cancel each other. As a second step in the evaluation, a follow-up study was carried out five years after the commencement of distance education. At this time, Spring 1979, the evaluation project was part of a larger project on recurrent education, the so-called UPPÅT-project (Dahllöf & Westin 1977) and so we deemed it especially important to include in our investigation the occupational and educational situation of the students five years after the commencement of studies. In the following sections, we shall review breifly the main features of the results, after which, on the basis of other literature, we shall discuss how distance education should be planned in order to give students maximum opportunities to succeed with their studies. Another report (Dahllöf & Willén 1978b) has dealt with the practical conclusions which can be drawn from the results presented here, as regards the planning needs of the educational regions. The discussion here, is concentrated therefore on the main features of the results and on aspects which

may be of importance for making decisions concerning the organization in general and the role of distance education in a comprehensive educational programme.

14.2 Information and recruitment problems (Chapter 3)

Recruitment and information problems were dealt with in a special study. Three groups were investigated, namely

- inquirers at Umeå University during the academic year 1974–1975, who did not later apply for distance education (N=265)
- applicants who were not accpeted for distance education during the academic year 1974–1975 (N=576)
- participants in distance education during the academic year 1974–1975 (N=1548)

The two latter groups came from universities participating in the experimental activities with distance education in Sweden.

Some of the conclusions from this study are briefly presented below.

- As regards informing the public about distance education, the participating universities had chosen different methods of disseminating information and spread it over areas varying in size.
- Regional information resulted in applicants from a limited area.
- Focussed information, i.e. information suitable for a special target group, resulted in many applicants.
- An important factor in recruitment was the variety of available subjects. The popularity of subjects varied in about the same way as in regular university education.
- The combination of a popular subject and focussed information resulted in many applicants.
- Subjects leading to teaching qualifications, together with focussed information, resulted in a higher proportion of teachers among applicants than the same subjects without focussed information.
- There was a large variation in geographical recruitment among the participating universities. More than half of the applicants to Umeå University, which has a wide catchment area, lived more than 200 km from the university. At Gothenburg University, on the other hand, almost 70 per cent of the applicants and 40 per cent of the accepted students lived within the Greater Gothenburg area.

- A comparison between inquirers, applicants and accepted students at Umeå University, showed that distance as such, did not seem to hinder recruitment in the Umeå region.

- The number of distance students actually living in the university town varied considerably, partly because the universities employed somewhat different rules for acceptance. In all, 8 per cent of the distance students and 19 per cent of those not accepted came from a university town. The number of students living within a 50 km radius of the university also varied considerably. The metropolitan areas had the largest number of students living less than 50 km from the university, which suggests that modified forms of education may be needed for students living in the vicinity of a university.

- During the investigation period, 9 of the 41 courses had been offered by more than one university at the same time. However, the results show that there was little competition between the participating universities, which were often situated at quite a distance from each other. These results are difficult to generalize as the conditions prevailing during the experimental period were special ones.

- Compared to the Swedish population in general, inquirers, applicants and accepted students at Umeå University more often came from so-called secondary school areas. The results suggest that recruitment largely takes place among people who have already acquired some form of post-compulsory education. These people are probably more often found in secondary school areas than in small communities or rural areas. It is also possible that the greater variety of educational and cultural activities in secondary school areas stimulates study interest.

- Inquirers at Umeå University have been compared on a number of background variables with two other groups at the university, namely applicants who were not accepted and distance students. No notable differences emerged. Sixty per cent of the inquirers became insterested in distance education because they thought it was a good study form. The reason why inquirers did not later apply were many and varied, but roughly one third named obstacles which could, in principle, be removed by measures on the part of the university. Examples of these obstacles were the insufficient variety of available subjects, the organizaiton of the meetings and the high entrance requirements. The majority of inquirers said they would consider starting distance studies either the following term or at a later date, but very few did actually apply for entrance later on.

- Twenty-nine per cent of the distance students were teachers, which is rather a low figure compared with those quoted in international reports. The largest category of teachers were those with an academic degree and a diploma of education. Study courses leading to better teaching qualifications had a larger

proportion of teachers among their students than other courses. It should be pointed out that in-service training for teachers is organized by the National Board of Education.

– Which groups, in the eyes of society, should be the target groups for distance organization? Is it possible to establish the target groups for this form of education and should they be established? This and similar questions have been posed by teachers and administrators during the course of the experimental activities, but, as yet, the official answer has not been forthcoming.

14.3 Participants views on distance education (Chapter 6–8)

This section deals with the panel group, i.e. students who answered both the questionnaires (N=797). The response frequency for the questionnaires was satisfactory.

14.3.1 Background (Chapter 4)

– The panel group consisted of somewhat more men than women. Within the different subject areas, the usual sex pattern emerged, with women over-represented in languages and the arts subjects and men over-represented in administrative, economic and natural science subjects.

– Half of the panel group was over 35 years of age. Over 20 per cent were 45 years old or more.

– One fifth had no secondary school education.

14.3.2 Motive for studying and study goals (Chapter 5)

– Motives for studying were often several and interwoven with each other. A good proportion of those who said that they studied for occupational reasons, also said they were interested in increasing their general knowledge.

– The occupational motive for studying varied with age, being strongest between 25–44 after which it declined. One exception was the alternative "to do present job better" which was chosen more often with increasing age.

– General educational motives increased with age. Teachers and students reading arts subjects more often than others said they studied for general educational reasons.

– Very few students gave the alternatives "waiting for other education" or "supplementing previous studies" as their motives for studying. Those who did choose these alternatives were often under the age of 25.

- The two alternatives "basic professional training" and "to be able to change jobs" were most usual among students without secondary school education. Teachers and others with an academic background seldom gave these reasons.
- Only 25 per cent of the students intended or were considering taking the full degree course when they started their studies. This group comprised mainly younger students, students with only secondary school education and those reading adminstrative and economic subjects.
- Half of the students were confident of success with their studies, men moreso than women and younger students moreso than older ones.
- Roughly two thirds of the students were satisfied with their choice of subject. This must be seen in relation to the extremely limited number of available subjects during this period.
- Almost two thirds of the students did not think they would have had any possibility of studying, if it had not been for the distance courses.

14.3.3 Frame factors and study effort (Chapter 6)

- The parents of most distance students had only compulsory schooling. The parents of male students more often had less education than those of female students.
- The majority of the distance students were married or cohabiting and over half of them had children.
- Husbands and wives were more positive to the students' studies than parents. Female students had more support from both their partners and their parents than male students.
- In all, 78 per cent of the distance students were employed, men more often than women. Of those reading languages, most often women, comparatively few were employed. The largest number of employed students was found in the administrative and natural science subject areas, where men were overrepresented.
- Nine out of ten employed distance students were satisfied with their present occupation.
- Two thirds of the students had informed their employers about their studies. Most employers were positive to the idea.
- Women did more work in the home than men. A good third of the men did not help at all with work at home, whereas this applied to only 3 per cent of the women.

- At the commencement of studies, half of the distance students, more women than men, planned to spend at least 10 hours a week on their studies. The higher education students had, the less time they intended to devote to studies. On completion of the course, when they were asked how much time they had spent on studies, only 34 per cent reported that they had spent 10 or more hours per week.
- Two thirds of the students had been forced to make one or more study breaks during the course.
- Almost every fourth student carried on some other form of studies parallel to the distance course.
- Two thirds of the students counted on completing their studies during the current academic year.

14.3.4 The study process and study results (Chapters 7 and 8)

- Almost all the students were satisfied with distance education as a study form.
- More than three quarters of the students considered the meetings to have been valuable. Those with less prior education appreciated the meetings more than those with a higher educational background.
- One of the most central distance over-bridging aids was the telephone, which was used by all departments. Three quarters of the students called their teachers. Only a third of the students were contacted by the teachers. Most of these students received the help they required when they called.
- A relatively large number of students had had no contact with other members of their course. A somewhat smaller number said that they had had no one with whom to discuss their study problems.
- Other distance over-bridging aids used, were primarily written material such as reading instructions, self-check assignments, assignments for submission and study guides. The students would like to see these aids used more frequently.
- The most sought after aids was the telephone.
- Technical aids such as the conference telephone and telecopier were used very little and were not especially in demand.
- Students with a lower educational background would, more than others, have liked to see an increase in the use of the following aids: Personal letters, telephone, conference telephone, study guides, reading instructions and tape-recorder.
- Female students, more often than male students, wanted an increase in the use of aids which gave more personal contact between student and teacher.

- When students were asked to rank the importance of different components so that distance education could function for them personally, it emerged that the most important need was connected with the variety of available subjects. Those with less prior education mainly requested more A-level courses, while those with a higher educational background tended to request more B- and C-level courses.
- A third of the students would have liked to see more shorter distance courses.
- There was a marked need for components with a "feedback" effect, such as the telephone, letters, study-circles and meetings. However, students who already had a lot of meetings at the university did not request these to the same extent as other students.
- TV and radio were also listed as alternative "feedback components", but students were less interested in these than in the above aids.
- The need for study guidance and study technique was greatest among those with a lower educational background. Women requested study guidance twice as often as men.
- The students were largely satisfied with their teachers' ability to fulfill their assignments during the meetings. However, in some cases teachers were criticized for e.g. not teaching study technique and for not being able to give information about current research.
- The study results were surprisingly high. Sixty-five per cent of the panel group had completed their studies successfully after three terms.
- The pass-rates varied considerably between the different subjects. In the panel group, 17 subjects had a pass-rate higher than 65 per cent after three terms. Languages, with the exception of German, had a low pass-rate. Twenty point courses had better results than the shorter 8 and 10 point courses.
- The number of passes on the 20 point courses increased by 12 per cent between the second and the third term. The increase was extremely marked for English. Even shorter courses showed an increased pass-rate between these terms, suggesting that students perhaps need an extra term to complete their studies.
- There are no great differences between the study results in the various subject groups. Those with less prior education have succeeded better in certain subgroups (arts, administrative and natural science subjects as well as the 8–10 point courses), and worse in the other groups.
- Pass with distinction was more common among those with a higher educational background.

14.4 Teachers' experiences of distance education (Chapter 9)

A questionnaire was sent to teachers who had participated in the courses included in our evaluation. The response frequency was extremely good (N=120).

- The teachers' views on the choice of suitable aids is well in agreement with the opinions of the students. The telephone and written material were the aids most appreciated by both groups.
- A little less than half of the teachers felt the need for aids other than those which were available.
- A quarter of the teachers thought that distance education would function better if assistance was given by e.g. Hermods, the educational associations, or other similar organizations. These teachers did not want help with the entire organization of the course, but only with certain aspects. They also pointed out that extra resources must be granted for outside help.
- Almost half of the teachers considered that the contact with distance students was better than contact with regular students. The positive telephone contact contributed to this.
- Distance education implied new work assignments for teachers. The follwoing changes were noted:
  more supervision and more personal contact
  changed working hours
  greater production of teaching material
  more administration
  more planning
- More than half of the teachers thought that distance education had a positive effect on regular education. Teaching aids, specially produced for distance courses have even been useful on other courses, and distance education has stimulated pedagogical discussions at the departments.
- The many teachers (86 %) who considered that distance education had a number of advantages, mainly stressed that it gave people who previously had no opportunity to study, the chance to acquire education. Among the 78 per cent who named disadvantages, 34 per cent said that the contact between teacher and students was poor and 37 per cent said that distance education gave the department a lot of extra work and problems.

14.5 The follow-up investigation five years after the commencement of studies (Chapters 10–13)

The group studied in the follow-up investigation was the panel group. Those under 25 at the beginning of the distance course were excluded, as this group was too small (N=32) to further divide into sub-groups. A further 51 students were excluded, as the background data for these people was incomplete. Therefore the final group consisted of 714 people to whom we sent questionnaire in May–June 1979. The questionnaire dealt with the following three areas:

- distance studies
- occupational situation during the past five years
- educational situation during the last five years

The latter area provides an interesting point of reference to the problem of recurrent education investigated by the U.PÅT-project (see Chapter 1). Despite the five year gap between the first investigation and the follow-up investigation, the response frequency was as high as 85 per cent.

Thirty per cent of the investigated group had changed address, making the work more difficult and, above all, delaying the data collection. An analysis of the drop-outs showed no significant differences between those who answered the questionnaire and those who did not.

In the follow-up investigation, the division into sub-groups was done in a different manner to the previous investigation. Educational background was an important factor and more than 50 per cent of the investigated group had some experience of academic studies before the distance course (N=238). This group was subdivided into a group comprising teachers and a group comprising those with other academic training. There were 39 teachers qualified to work in either the lower or middle levels of the comprehensive school or, in a few cases, the pre-school area. Thus, there remained 199 people without previous experience of university studies or teacher training.

The age distribution was the same as in previous reports with the exception of the group under 25 years of age at the commencement of distance studies.

The motive for starting a distance course was considered an important background factor. The answers to the question concerning motives were divided into two groups with, in all, 8 alternatives. One group comprised those who studied for occupational reasons and expressed the desire to change their occupational situation in some way. The other group consisted of those who mainly studied for general educational reasons and those who wanted to do their present job better. In principle, we wanted to differentiate between those who studied with the clear purpose of changing their occupational situation (40 %) and those who studied to better their general knowledge or to acquire more knowledge for their present job (60 %).

14.5.1 Attitude to distance studies (Chapter 11)

- In the previous investigation the study results were surprisingly good, sixty-five per cent of the panel group had completed their studies successfully after three terms.
- Five years after the commencement of distance studies, the number of passes had risen from 65 per cent to 76 per cent, which proves that a number of students return to complete their studies after a long break.
- Men especially in the younger age groups, took less time to complete their studies than women, a fact which perhaps can be explained by the more complex life-situation of female students in these age groups. They often combine studies with employment, as well as looking after the home and children, a situation which can lead to many unforeseen delays in studies, as it is this activity which most easily can be postponed.
- Very few (10 %) of the students said that distance studies had led to financial difficulties or problems at home or at work. There were no differences between the sub-groups.
- As many as 80 per cent would recommend distance education to a friend and only 1 per cent would advise against distance studies.
- A third of the investigated group said that distance education had stimulated their interest for studies.
- More than half of the students said their interest for studies remained unchanged after the course. Many explained this by saying that their interest was already very strong before the course.
- Those whose interest for studies declined after the course (8 %), often explained their attitude by referring to factors not associated with the university e.g. family or work.
- Those who had not previously studied at the university before the distance course more often showed an increased interest in studies than those with prior experience of an academic education.
- The older the student at the commencement of studies, the more likely it was that interest for studies increased.
- A large proportion of the group (79 %) answered an open question about what distance education had meant for them. Almost all of those who answered, said that distance education had had a positive meaning for them. Only 5 per cent refer to negative experiences.
- There were considerable qualitative differences in the way the open question was answered. Female students wrote longer answers, were more forthcoming

and motivated their answers more than male students. The answers of the women were also more often emotionally tinged.

- More than half of the answers to the open question dealt with the self-actualizing effects of distance education. Female students without prior experience of university studies were most likely to give such answers.
- In a separate analysis of those who said distance education had led to increased self-esteem, it emerged that a considerably larger proportion of women (25 %) than men (11 %) had experienced this effect.
- More women than men said that their self-esteem had increased because they had succeeded with their studies. This was especially true for women without prior experience of academic studies.
- A third of the students emphasized the extreme suitability of the study form for those who are employed or who have children to look after and thus, cannot participate in any other form of education.
- A smaller proportion (19 %) answered that distance education had influenced their occupational situation positively, i.e. some change had taken place in the area of work.

This part of the questionnaire confirms the results of the previous evaluation, i.e. the positive attitude towards distance education on the part of the students. This suggests that this form of education, handled properly, can be a good alternative for many students and is therefore an important link in the system of recurrent education. It also clearly emerges that there are certain important factors which decide the quality of the education. Plainly expressed: the flexibility of the studies combined with good possibilities of feedback between teacher and student. From the point of view of planning, the variety of subjects available on different levels is an improtant factor. In order to provide a wide variety of subjects and the opportunities to combine subjects, the courses to be offered should be planned for the region as a whole or in cooperation with one or more other regions. The organization of individual courses and the methods to be used, must take place on a departmental level. Relations between the different levels of planning must be good in order to facilitate the necessary exchange of experiences.

14.5.2 Occupational situation during a five year period (Chapter 12)

- As expected, the occupational situation of the men was very stable during the investigated period, whereas more than a fifth of the women changed their occupational situation during the same period.
- Almost all of the male students worked full-time both at the commencement of the distance course and five years later, whereas the women are distributed

over several alternatives such as full-time employment, part-time employment, work in the home, full-time or part-time studies.

- The group which had experienced the most changes were women under the age of 45 without previous university education who began studies in order to change their occupational situation.
- Almost half of the investigated group had changed their occupational situation during the period in question and half of these had changed jobs completely, men more often than women.
- Thus, the most dramatic changes, discounting teachers who changed schools, took place among those without previous experience of university studies.
- Those who began distance studies in order to change their occupational situation have also done so to a larger extent than those who began for general educational reasons.

14.5.3 Educational situation during a five-year period (Chapter 13)

- The results of this investigation show above all that the investigated group was extremely flexible in their choice of type of education and educational organization.
- The educational situation was more complex than we had imagined.
- As many as 80 per cent of the investigated students had participated in some type of education apart from the distance course during the five-year period.
- Seventy per cent had participated in university courses, while 55 per cent chose other educational alternatives of which the most frequent were in-company training, educational associations and trade union courses.
- Roughly one in three of the investigated group had participated both in a university course and in other training.
- The men tended to choose in-company training and trade union courses more than the women, whereas the opposite applied to courses run by the educational associations and municipal adult education.
- Those with a university education had more often participated in a course run by the educational associations than those without experience of university studies before the distance course.
- Younger men, without prior university education participated primarily in in-company training.
- The majority of those who continued university studies after the distance course, did so in the form of separate part-time courses. More than half of

these people succeeded in taking a further 20 points after the distance course.

– More than 50 per cent continued with distance studies.

Our results suggest that a better coordination of the variety of education offered within a region should prove fruitful. This type of collaboration would probably result in a rich exchange of experiences between planners, teachers and students.

This presentation, however brief, should give a good picture of how complex and fascinating recurrent education can be. There are numerous opportunities for those who wish to acquire more education. The final choice seems to depend on many factors such as the individual's age, motive for studying, previous educational background, family situation, self-esteem, occupational situation etc. Factors such as the availability, focus and organization of education will also affect the choice.

In Figure 14.1, I have attempted to summarize the factors which influence the individual's decision regarding his educational situation. The factors have been divided into three groups representing the individual, the organization of education and society. A combination of factors will decide firstly, whether the individual participates in education or not and, secondly, the type of education he

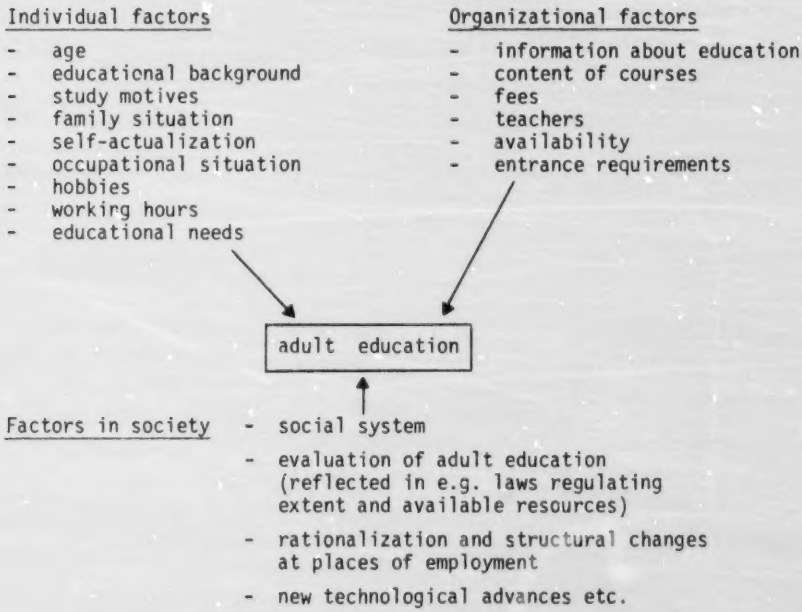

Figure 14.1. Some factors influencing the choice of educational alternatives for adults.

chooses. The factors presented in the figure are not ranked in any order of importance. The individual factors can vary in importance for different people, or for the same person at different times. A factor can either hinder or encourage a choice of education. The various educational forms within e.g. the university can suit different people at different times. A distance course may be the only possible alternative for a women with small children to look after, whereas later in life, the same woman may prefer another form of education. Entrance requirements can force a person to start a different education to the desired one, or to postpone studies for a while. It is also possible that a person has decided on a certain education, but other factors make it impossible, e.g. the particular course is not available in the area, or is given in such a way that it is impossible for the person in question to participate. Perhaps further education is necessary for a person's work but his current life-situation makes it impossible for him to participate at that particular time (Cf. Benseman 1980).

The evaluation study and the follow-up study provide clear proof that distance education is a good form of education for adults. It is suitable for several different groups. The reason for its suitability in our opinion is the built-in flexibility of the model combined with adequate possibilities of feedback for the student. Studies can be carried out at suitable times for the student and the time for face-to-face teaching is minimal and concentrated to a few occasions. This does not mean that we prefer this type of education above all others. There should always be alternative forms for the individual to choose from, and it must be remembered that distance education makes great demands on both students and teachers.

15. Concluding discussion

The results presented here, point to several problem areas which would merit a more detailed discussion. Let us name a few of these: the advantages and disadvantages of such evaluations, the planning of recurrent education, the rôle of distance education in higher education, the special situation of women in higher education etc.

These questions, representing problems at both micro and macro levels, are all essential. However, at this point, we have been forced to give priority to certain of them. First of all, it would seem important to discuss the overall questions of method in relation to the goals of the experimental activities with distance education. By method, we do not only mean the actual teaching methods used, but rather how distance education ought to be organized in order to function optimally for both teachers and students.

For us, the concept of distance education implies a geographical distance, and it is this distance which must be bridged in one way or the other.

15.1 Definition of distance education

In English, there is a plethora of terms for this form of education e.g. distance education, correspondence study, home study, independent study and external studies. Some of the terms, like home study and independent study, seem to be most common in the United States of America. External studies is used most in Australia and New Zeeland, mostly in connection with university studies when the university in question has both regular students and so-called external students who do not live near the university. At university level, many countries use the term distance education and it is the definition of this term to which we shall turn our attention.

The existence of several definitions is probably due to the fact that the concept comprises a number of varying study forms, especially when seen from an international perspective. The most noticeable differences are in the way organizational problems are solved and the choice of media.

Keegan (1980) analysed four different definitions and found that three of them "can probably be accommodated within any basic theory of education" (ibid. p. 16). On the other hand Keegan shows that Peters (1973) takes quite a different standpoint by trying to demonstrate that distance education "is based on a new academic theory which is quite alien to traditional didactics" (ibid. p. 17). Peters

means that there are two forms of education which are completely separate from each other, on the one hand traditional education which rests on personal communication and on the other hand distance education resting on industrialised and technological communication. Keegan also analyses the nature and forms of distance education and comes to the conclusion that the different forms of distance education can be identified through the choice of technical media as a basis for instructional material. Keegan establishes that it was a disservice to give schools names like e.g. "University of the Air" when most of the teaching is based on written material and, of necessity, will continue to be so in the future.

Keegan's analysis and review of different distance models is extensive. We cannot present all his arguments here, but will content ourselves with presenting what he considers to be the main elements of distance education, namely:

- "the separation of teachers and learner which distinguishes it from face-to-face lecturing
- the influence of an educational organisation which distinguishes it from private study
- the use of technical media, usually print, to unite teacher and learner and carry the educational content
- the provision of two-way communication so that the student may benefit from or even initiate dialogue
- the possibility of occasional meetings for both didactic and socialisation purposes
- the participation in an industrialised form of education which if accepted, contains the genus of radical separation of distance education from other forms" (ibid p. 33).

Let us now briefly return to our definition of distance education and see how well it agrees with Keegan's definition. The first real definition of distance education is found in U68 (1969 a), where it denotes a combination of self-instructive material and oral instruction, UKÄ, who were responsible for the experimental activities, gave the following directive, "The concrete form the experimental activities will take, depends on the special conditions, and methods prevalent at the participating universities and departments" (UKÄ 1975, p. 1).

The definition employed in our project, is based on the above definition and directive. It is as follows: "Distance education is a form of education where oral instruction has a rather subordinate rôle and is concentrated to a few intensive periods spaces throughout the term or academic year. In between these periods, the student works at home on his own, but with the possibility of consulting the teacher by telephone or letter. Thus, this form of education is a development of correspondence education" (Willén 1973, 1974).

When we call it a development of correspondence education, we do not mean to say that distance education necessarily implies a qualitative improvement. Correspondence education is interpreted as a form of teaching without face-to-face contact between student and teacher where the written word is the dominating method of bridging the geographical distance (see also Keegan 1980,

p. 30). By development, we mean that the written word is supplemented by further methods to bridge the distance between student and teacher.

If we return to Keegan's definition, we can conclude that five of the six elements mentioned can be found even in our definition. On the other hand, we have never questioned or even discussed, whether distance education should be considered basically different from other forms of education, and therefore the last point taken up by Keegan does not fit into our definition. Keegan himself, acknowledges that this point can be excluded, if one does not accept that distance education rests on its own theoretical basis. That this question has never risen in Sweden, may be due to the common view of both planners and teachers, that distance education is to be seen as a supplement to other existing forms of university education e.g. regular teaching, evening classes, decentralized education. This view is shared by many other parts of the world, for example, Australia.

There is a certain opposition against this view. Holmberg (1978) says, "The subordination of distance education to bodies representing conventional education seems to me such a great risk that it must be considered a threat to proper distance education (at least in some parts of the world)" (ibid. p. 35). Holmberg fears that such a system will lead, among other things to a lack of student independence and a lack of general schooling (see further below). Another danger in coordinating distance education and regular education would be, according to Peters (1978) "difficulties and problems which arise when the teaching and administrative staff of traditional universities are confronted with new types of students, new methods of teaching, new media, and new organisational set-ups". (Ibid p. 94). In this regard, our evaluation clearly showed opposite results. Distance education often increased the pedagogical consciousness of the university departments. According to teachers, the distance students had been a positive influence at the university. This should also be seen in relation to the fact, that the students were satisfied with the education they had received and that the pass-rates were exceptionally high compared with other forms of education.

In the discussion which follows, we shall deal only with distance education at university level, as in a discussion of this nature, we must constantly bear in mind the special goals of the university, regarding the planning and content of education.

In a previous report (Dahllöf & Willén 1978b) we discussed the practical conclusions which can be drawn from the results of this evaluation, regarding the educational planning needs of higher education in Sweden. This discussion mainly took up aspects of importance for decisions concerning the overall organisation of education and the rôle of distance teaching in a comprehensive educational programme. The starting-point for this concluding discussion is partly to be found in the above report. We shall also look at the results of our evaluation in relation to experiences from other countries.

The U68 Commission (U68, 1969a) gave clear terms of reference to UKÄ about experimental activities. However, for a time, the general position of distance

education was confusing and difficult to analyse, on account of diverse political interventions. At the same time as the universities were discussing the possibilities of starting distance education, the Committee for the Use of Television and Radio in Education (TRU-Committee), were given the task of penetrating the question of the use of broadcasting media in educational systems. The source of this task was a Parliamentary Bill (1972:1170) concerning the proposed innovation of a system similar to the British Open University. These two organizations, in principle dealing with the same problem, worked parallel to each other for several years. There was very little constructive collaboration between the TRU-Committee and those working practically with the experimental activities at the universities. In their report, (SOU 1975:72) the TRU-Committee presented a number of organizational models which mainly varied in the amount of central organization. The Committee did not favour any particular one of these models. Distance education in higher education continued as before, changing only in regard to the authority responsible for the overall planning. During the first years, this had been in the hands of UKÄ, but after the Higher Education Reform in 1977, it was transferred to the newly established Regional Boards (Prop. 1976/77:59, UbU 1976/77:8).

Thus, distance education at Swedish universities was launched without too many investigations and discussions about the special characteristics of this form of education. The establishment of distance education at the universities in Australia and New Zealand took place in much the same way, although considerably earlier in the century (OTE 1974, 1975, Braithwaite & Batt 1975, Jevons 1979). The true driving force behind the initiation of these activities was to be found at the universities, even though the motives behind the actions were disparate.

The planning behind the new large centralized distance universities such as the Open University and Fernuniversität has been considerably more extensive, naturally because of the large investment of personnel and financial resources involved. In these cases it was necessary to make decisions about methods, teaching materials etc., at an early stage in the planning.

In the Swedish activities, these questions have been entirely an internal matter for the departments concerned. This is very noticeable, when one reads the report of the TRU-Committee (SOU 1975:72) and the comments received after circulation of the report. This report treats only the possible organizational solutions. From the point of view of teachers and students it is the practical situation which is most essential. Therefore on the basis of the results of our evaluation, we shall discuss how distance education at university level can be organized in order to function satisfactorily.

15.2 Target groups for distance

The planning and implementing of distance teaching in higher education must naturally take into consideration

- the official aims of the university
- the needs and situation of the intended target-groups
- economic and organizational reality

In brief, we shall mention some of the aims of university education in Sweden. We shall present the aims which are to be found in the Higher Education Act from 1977 (SFS 1977:218). The overall goals of education are of main interest in this connection, whereas the regulations about the organizing authority and suchlike, need not be taken up. Paragraph 1 of the Act states that "education, research and developmental work shall be carried out within the area of higher education" and in the next paragraph, the goal for education is expressed in the words "higher education shall have a scientific basis".

Education is to be planned so that students acquire the knowledge and ability to judge various phenomena critically. Education should also prepare the students for a future profession or enable them to further develop their skills in an existing profession. Knowledge and skills acquired through contact with working life and society should be utilized. All education should further the personal development of the individual. It should also further understanding for other countries and international conditions. It should be noted that the expression "acquire" knowledge, skills and a critical schooling, is used in order to underline the active participation of the student in the educational process (see Sandqvist-Örnberg 1977, p. 17).

These examples of the overall goals can even be supplemented with the specific goals for each course. However, there is no reason to elaborate on these in this context.

For the majority of us, it seems quite obvious that we must start with the needs and situation of the target-group when planning education. But how often can we do this? In most planning situations, the necessary information is not available, and even if it should be available, other interested parties, primarily the involved departments will claim that their education is the most appropriate one.

As far as Swedish distance education goes, we are, thanks to our evaluation, now in a position where we have relatively sound knowledge about the needs and situation of the investigated group of students. Already in a previous report we stressed the importance of being cautious at this stage. "What seems to us a self-evident concentration on the needs and situation of the target-group, also gives rise to warning signals when it comes to utilizing the empirical material from the Swedish investigations. Firstly, one must be aware of the difference between subjects and subject groups, and only draw general conclusions when there is a stable basis of consistent tendencies. Secondly, and most important, the conclusions

must be based on the sub-group of students which corresponds closest to the target-groups" (Dahllöf & Willén 1978b, p. 4).

We would also like to emphasize the importance of noting meaningful differences between the sub-groups, especially when a systematic trend is obvious (cf. Zelan & Gardner 1975, Chesson & MacDonald 1978, Cross 1978).

In the current literature in this area, there is a tendency to characterize distance students as though they were a homogenous group. Take the following example from Wångdahl (1980) "The discussion of various situational factors, carried on above, can be summarized in a rough outline of a typical correspondence student. Thus, the correspondence student is a man, 20—35 years old, and has a higher previous education than the rest of the population. He has full-time work, most often a white-collar job, he is married and he has often children living at home. He lives in an urban area, most often with more than 75 000 inhabitants" (ibid p. 14).

Such descriptions do not help in the planning of distance education. On the contrary, they may have a negative effect (cf. Cross 1978). Such general descriptions could perhaps be used in the planning of a smaller course, especially if the target-group was a very specific one.

When planning Swedish distance education, special consideration has been given to those who are gainfully employed, have less prior education, are older and live comparatively far away from the nearest place offering the same course in a different form. The evaluation has also shown that, during the experimental period, we have succeded in recruiting students answering to these criteria, with the exception of educational background (see Chap 4).

As regards educational background, the results are not quite so clear-cut. This is mainly due to the fact that the goals were not completely unambiguous in this respect. We previously stated that "the goals concern not only distance education, but higher education in general. Experimental activities according to the 25:5 rule, which was succeeded by the general quota for students applying under the 25:4 rule, naturaliy give us reason to reckon with a considerable number of students with less education than the three year secondary school, although nowhere are directives to be found saying how large a proportion of students this group should constitute (cf. even Kim 1978)" (Dahllöf & Willén 1978b, p. 6). The discussion about students with a lower educational background is further complicated by the fact that some of the subjects included in the experimental activities demanded special basic knowledge (Willén 1980a, 1980b).

When comparing our results with those from distance education at university level in other countries, the subject of teachers soon arises, as the activites are often based on the needs of teachers who wish to better their qualifications. At the Australian universities with their long experience of distance education, there was previously a large proportion of teachers (70—80 %), but during the 1970's it declined to the 55—65 per cent level (Dahllöf 1976).

The Open University also had a high proportion of teachers from the beginning, but have since experienced a decrease (Grattan & Robinson 1975). In the

majority of industrialized countries, the discussion about the educational background of students has reflected an aim to give other groups than the traditional ones, the possibility of a university education. It is still difficult to find a university which is satisfied with its efforts in this direction (see McIntosh & Woodley 1975, Chesson & MacDonald 1978, Cross 1978).

We shall now turn to the concept of the indpendent and autonomous learner, as it features frequently in the debate on the flexibility of distance education. Writing about distance education, Holmberg (1980) says it "... is an instrument of individualized study and has aspirations to favour independent study and cater for the autonomous learner. It is based on pre-produced courses and organized non-continuous two-way communication between students and a supporting organization" (ibid, p. 116). "Apparently many adults prefer distance study to other forms because they feel it makes them more independent" (ibid, p. 110).

Holmberg bases his argument on a theory put forward by Moore (1972, 1973, 1975, see also Wedemayer 1975, 1978) on independent learning and teaching. According to Moore, independent learning and teaching is an educational system in which the learner is autonomous, and separated from his teacher by space and time, so that communication is by print, electronic means, or some other non-human medium and the autonomous student is described as a person who knows how to proceed through each of the learning events.

The opinion that the majority of distance students are autonomous, and for this reason choose this particular form of education is not supported by the investigations which have been carried out. On the contrary, it often proves to be practical reasons which have driven the student to choose this form of education. Our evaluation also clearly shows that most of our students had no choice, as no other form of education was available in the place where they lived, or that it was impossible for them to participate in any other form of education for family or occupational reasons.

Our data shows that distance students at the university do not constitute any special group compared to other adult students at the university. The extension of this discussion, suggests that it could be harmful for students if one were to hypothesize that students are autonomous learners who know how to proceed through each of the learning events. Such an opinion could be misused, so that the planner and the teacher do not take the needs and capabilities of the students seriously enough when organizing education. O'Donnel & Daniel (1979) have also pointed out that the first myth about the adult student which must be dispersed is "that adults neither want nor need help in setting goals, planning programs, defining objectives or sharpening learning skills. Experience, the great teacher will ensure these steps occur" (ibid, p. 6, see also Daniel & Shale 1979). Houle (1964) expressed similar thoughts as far as the problem of drop-outs was concerned, namely that many adults do not know how to learn and therefore need much help at the beginning of their studies. Many investigations show that students who choose distance education are dependent on being able to be flexible

in their studies (Zelan & Gardner 1975, De Goede & Hoksbergen 1978, McIntosh 1978, McIntosh & Woodley 1978b, Fenster 1979, Hall & Palola 1979, Kaye & Rumble 1979).

Here we see two clearly opposite views on distance students and the nature of distance education. One standpoint views the student as an independent or autonomous learner, who chooses this form of education because of specific individual characteristics and, because of these characteristics, has every chance of succeeding with studies. The other standpoint represents an interactionist model.

Let us first take a look at the hypothesis that the distance student is an independent learner. This hypothesis can be split up into at least two important parts. Firstly, the model would appear to attribute everything to psychological factors within the individual. Factors in the environment do not seem to have any explanatory value. Secondly, it would appear to assume that people can be divided into clearly defined groups as regards personal characteristics. It is many years since this view was discarded by the behavioural sciences (cf. Ekman 1952). We therefore strongly question the view that the distance student can generally be characterized as an independent or autonomous learner. The hypothesis appears to rest on relatively shaky foundations and one may ask what empirical evidence there is for its validity.

In the interactionist model, the individual is seen in a wider context, the explanations for study behaviour being sought both in the individual and in the environment. This has been the starting point for our evaluation and it is supported by the theoretical model used in the area of school research (see Chap 1). This model is based on the interaction between goals, student capabilities, environmental and frame factors, the educational process and results. Thus we have sought to discover factors in the individual, in the environment and in society which can explain our results. We have also seen that environmental and frame factors are of utmost importance for the students' choice of education and also for the actual study process. Similar results have been reported from other studies from different areas of education.

When one studies the large newly established distance universities such as the Open University in England and Fernuniversität in Western Germany, one is impressed by the enormous resources these universities have at their disposal. The variety of TV and radio programmes as well as the well laid-out teaching materials are also impressive. Kaye (1979) tried to elucidate what it was about the Open University that attracted the great number of study visitis and says, "The factors that attract this interest are not always easy to identify, but seem on the whole to be related to the uniqueness of the UK OU in combining within one institution:

- distance teaching methods
- an open-entry policy
- a credit-based, very flexible, course structure
- an exclusively adult intake of part-time students

– an autonomous university structure
– high academic, pedagogical and presentational quality in much of its teaching material" (ibid, p. 1).

Kaye points out that this model could not with certainty be adopted in its entirety by another country, as the Open University is associated with a number of specific factors such as strong financial and political backing, a densely populated country with good communications, access to knowledgeable staff and a broadcasting organisation with a tradition in the area of education (cf. Ellis 1979). A further factor contributing to the expansion of the Open University was the unwillingness of the traditional universities to open their doors to new groups.

In Kayes' list of factors contributing to the fame of the Open University, we lack a factor relating to the students in the system. One of the essential aspects when evaluating such systems is the students' opinion of how the education functions.

15.3 Media and organization

In our continued discussion, we shall concentrate on the students and try to discover how distance organisation should be planned in order to suit their needs (see Lampikoski 1975, Lampikoski & Mantere 1975, 1976). We shall base our discussion on the results of our own evaluation of distance education at the Swedish universities. The general impression was that distance education had functioned well and that the students were satisfied with their studies. However, we cannot rely on such general statements and on further analysis of the answers, we find that there are naturally a number of weaknesses and omissions in the model. The greatest problem seems to lie in the feedback aspect, i.e. the need of a better contact between teacher and student when it comes to interpreting, analysing and discussing the content of the course (cf. Open university 1979b, Rowntree 1976). It may help if the structure of the material was edited further, but we know from our evaluation, that there is a large variation in students' ability to cope with the material (see e.g. Marton & Willén 1972). Therefore, different students need different structures and different supportive measures. These measures must be set in quickly. The problems also arise at completely different points in time, as the student's possibilities of studying are limited by other activities concerning e.g. work and the family (cf. Cain 1979). Thus, it is a question of individualization of teaching and we would like to make it clear that this need cannot be met by TV or radio programmes, however, excellent they may be (cf. Bates & Pugh 1975, Bates & Callagher 1976). As our students pointed out, the problem with TV and radio is their lack of flexibility which is one of tye cornerstones of distance education (cf. Hines 1979, Taylor 1979). At the beginning of the 1970's, the general opinion was that broadcasting media were the key to the successful distance teaching of large

groups of students (Hawkridge 1973, Holmberg 1973). In Sweden, this was illustrated by the report of the TRU-Committee (SOU 1975:72), where, after describing various international systems, those using broadcasting media were preferred to those not making use of such media. During this period, broadcasting media were considered a possible method of making even other forms of education more efficient (see e.g. Chu & Schramm 1967, Campeau 1973). There is, thus, a connection between this belief in broadcasting media and the establishment of the large distance centres, where these media are a vital component. Already towards the end of the 1970's, more and more people were beginning to discover the broadcasting media were not the answer to everything. As Erdos (1978) expressed it: "In the past, development in distance education made possible by advances in technology, or introduced by innovative teaching methods have usually been hailed with enthusiastic claims for effectiveness greater than that of the early correspondence courses dependent entirely upon the written word. Now studies have shown that correspondence courses supported by radio programmes have not always been significantly more effective than correspondence courses without radio support and the cost is much greater"(ibid, p. 31).

It is, however, important to differentiate between different types of courses regarding aim and content. One must differentiate between courses on a lower educational level and with more general content, and courses at university level. Sparkes (1979) points out that TV and radio cannot provide a feedback path for problem identification. The use of broadcasting media is very expensive for organizations of distance education which probably will result in a decline in interest. With the advent of technological changes, TV and radio will probably be replaced by other methods such as e.g. videodiscs which are less expensive (David & Shale 1979).

In the decentralized Swedish model the contact between student and teacher is central. Meetings at the university and the telephone have been the main methods of establishing contact. This is also the most common method e.g. in Australia (Debham 1976, Mitchell 1975, 1978, Laverty 1980).

We shall now see how other distance systems have treated these problems. The large central distance universities such as the Open University and Fernuniversität seem to work on the assumption that the distance student is an autonomous learner who, compared to other adult students, can take responsibility for his studies, thus needing less support from the teacher. Keegan (1981) says the counsellor function should be used at the Open University to each students "how to become independent learners" (ibid. p. 16). There is an essential difference between assuming that the students are indpeendent learners when they come to the university and trying to help them become independent. In the case of Keegan and the Open University it seems that the aim is to give the student the best support possible, on the basis of his capabilities and situation. From the start the Open University has established a network of contacts between the organization and students, in the form of study centres, counsellors and tutors. One of the

problems has been that not all the students have been able to visit a study-centre and that the counsellors have had a very large number of students to look after.

It is interesting to note that during the 10 years the Open University has been in operation discussions about the weaknesses in the system have only now been concentrated on contact between the student and the organization, and measures taken to better it (Keegan 1981). Keegan (1978, 1980a, b) underlined this very problem by saying that "Central to any distance system is the link which is provided between the learning materials that are developed by the institution and the learning that is to take place therefrom" (Keegan 1978, p. 1).

During the early days of the Open University, there were three tutorial persons for each student, namely, a councellor, a correspondence tutor and a class tutor. The class tutor gave face-to-face tutorials to groups of students at the study centres, the correspondence tutor answered the correspondence letters and the counsellor had various rôles, mainly social ones (Morris 1977). It is important to follow the debate on this question at the Open University and the changes that were made.

Students not living in the vicinity of a study centre constitute a specific problem. MacKenzie, Postgate & Scupman (1975, see also Idle 1976) have pointed to a causal relationship between students' use of interactive student service and success with studies. In an investigation of tutorials in mathematics, it was found that attendance at face-to-face tutorials correlated well with study results. Regular attenders at tutorials appear to achieve on average one grade higher than non-attenders. The conclusion drawn, is that all students ought to have the possibility of contact with a tutor/counsellor (Harrison 1974, Northede 1975a, Sewart 1975, Watkins 1975, Whitlock 1975). George (1979) suggests that the telephone be used in order to establish good communication with these students. The telephone could also be used for teleconferencing for academic and administrative staff, as well as for group discussions between students and the course tutor (Turok 1977).

The discussion about contact between students and the organization has been a lively one at the Open University, and it is important to note that those raising the question, have mostly been the people actually working with these functions within the system.

Sewart (1975) has also pointed out that "face-to-face tuition was of course, in theory the weakest link in the system even in 1971 since its basic prerequisite was a nucleus of students in any geographical areas following the same subject" (ibid. p. 2).

The Open University has tried establish group activities between students, either independently or with a leader from the university (Sewart 1975, Watkins 1975), even though only 30 per cent of the students have the possibility to attend. It has also been a wish that both tutors and students participate in course development (Lockwood 1979, Thorpe 1979).

The debate in face-to-face tutorials in a distance teaching organization ought

also to influence the nature of the tutorial role within the Open University (Thomas 1974, Murgatroyd 1976).

In this discussion, a central point has been the tasks of the study-counsellor and how these best can be accomplished. Watkins (1975) claims the students acquire knowledge from the correspondence units and from the broadcast programmes. The task of the study-counsellor is to act in relation to the material. "In the longer term, however, his responsibility is to the students whose best interests may be served not only by the tutor/counsellor interpreting and clarifying the published material, but also by being helped to develop his own study methods and group discussion techniques. In the end, the learning experience must be controlled by the student individually in his preparation, and by the group members collectively in their discussions" (ibid, p. 9). Counselling consists of a set of identifiable functions such as motivational problems, deficits in skills, problems of motivational adjustment and so on, and these functions are fundamental to the welfare of the student and thus for the efficiency of the educational system (Nicholson 1977).

Thus, the conclusion is that effective personal counselling plays a central part in the study situation (cf. Northedge 1975b, Simpson 1977, Sharma 1978), an opinion which is seconded by the results of our evaluation of distance education in Sweden. This may be summarized by a quotation of Watts (1977): "The policy is clear: counselling is an academic and educational function supporting the student in his progress of studies with the University" (ibid. p. 21). By this, Watts means that counselling at the Open University is described as a cognitive process, but personal counselling should also be regarded as an important aspect. Gibbs & Durbridge (1976) have shown that the personal style of the tutor was seen as his most important quality. The most popular tutors are understanding, systematic, informal, flexible and interesting.

Davison (1975a, b) reminds us that counselling has always existed in academic education and is not a new activity invented by the Open University. Davison is of the opinion that counselling must be seen as a balancing agent in the system and the important thing now is to learn more about adult-learning situations in order to provide good counselling. Thus, counselling at the Open University and the Swedish universities has a similar aim, despite the different systems in the two countries.

In Figure 15.1, Sparkes (1979) describes the Open University in the form of the educational process as a feedback system.

In this diagram the emphasis has been placed on the teaching process rather than the learning process. We see that the process starts with a primary forward path from the teacher to the students—text TV and so on. The students follow up with feedback to the teacher in the form of questions, exercises, tests etc. Sparkes continues, "The loop comprising 'individual' problem identification and remedial tuition is simply an error-correcting, negative-feedback loop, centred round students' individual difficulties. In practise it comprises tutorials, tutor comments on written work, further reading, discussions with fellow students, telephone

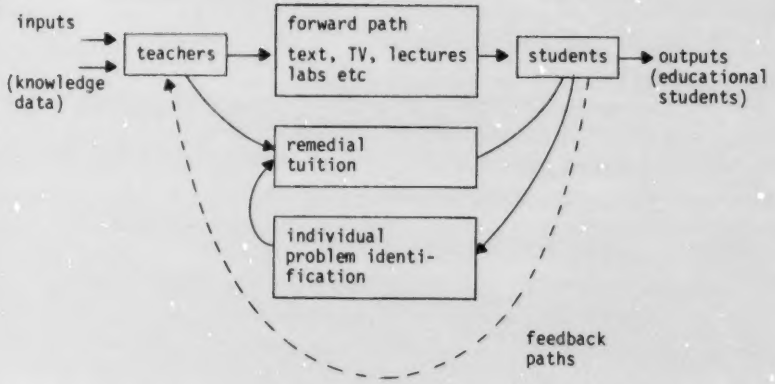

Figure 15.1. Education represented as a feedback process (according to Sparkes 1979, p 4).

tutoriais, computors aided instructions etc." (ibid. p. 5). The wider feedback loop in the diagram gives statistical data which may influence the primary path. Sparkes points out that different types of knowledge need different means of communications.

As can be seen from this system, there are many people who share in the feedback process, which is regarded as a necessity. The feedback from the students goes in different directions within the system. The feedback process in Swedish distance education is much simpler, as the delegation of responsibility is not split up in the same way as at the Open University. In Sweden, the teacher fills all of the rôles included in the system. Our teachers themselves produce the necessary supportive material. Further, teachers are also responsible for the organization and implementing of teaching. Feedback from the students, in principle, goes solely to this particular teacher. One of the essential differences between these two systems is that problems arising in educational process in Sweden, for a group of students or an individual student, can be solved much more quickly. Bates (1974) took up the problem in connection with the Open University and pointed out that "the tutor having most contact with the students, is the most suitable person to provide other officials in the organization with feedback and that the need for evaluation stems basically from the separation of students from the course team" (ibid. p. 35). One disadvantage with the Swedish model is that the teacher works on his own with the course and so control over the process is not shared. There is also a risk in the Swedish system, that a long time may elapse before weaknesses in the contributions of individual teachers are discovered. On the other hand, the Swedish distance teacher has the advantage of also working with other educational forms, which should provide a certain perspective and a yardstick for

setting a standard for students reading the same subject although in different study forms (see Karrow 1979, Skår 1975).

The Open University has continually modified the link between students and the organization. After the system had been in operation for a few years, it was found necessary to reduce the number of people assisting the student from three to two, the counsellor and the course tutor. Since 1976, although there are still two people, they are now called tutor-counsellor and course tutors (Keegan 1981). Contact is taken with the students several months before the start of the course in order to prepare them for coming studies.

The staff have the help of a computor which can provide information about the student and also comparative material for all the students on the course in order to confirm the quality of the education (Murrell 1976). This system is to be expanded in order to give counselling-staff better possibilities to identify quickly "weak or problematic students" (Sewart 1978a, b, 1980). According to Keegan (1981), "this system of counselling is the secret of the OU's success. It prevents avoidable drop-outs, assists student towards graduation and guarantees the qualities of learning in the OU system" (ibid. p. 23).

Even other distance organizations have come to the conclusion that personal contact—counselling—is important for the success of the student. If this problem can be solved, there are also hopes of reducing the number of drop-outs in these systems (see e.g. Lewis 1980). Let us give a few examples. At Queen's University in Ontario, at the beginning of 1972, the telephone and weekend seminars were used for a trial period in an attempt to improve contact between teacher and students (Orton 1978). The experiment was a great success, even though not all the students utilized the possibilities. Today both telephone and seminars are an accepted part of the programmes. Zorkoczy (1979) also suggested integrating the telephone into the distance system in order to improve communication. In his discussion about communication between teacher and student in correspondence teaching, Di Silvestro (1978) takes up the fact that correspondence teaching has often been criticized as an impersonal form of instruction. Indiana University has tried to remedy this by "encouragement, insight and incentive for deeper thinking which should provide" (ibid. p. 4). The means used were casette tapes used by the teacher in his contact with the student, and a telephone service for students. The experiment has not been evaluated yet, but it may be said that those involved are positive to the new aids as they give more personal contact with instructors, students and professional staff. Goodenough (1979) stressed that audio-cassettes with or without visual material are an extremely useful medium. An advantage is that students can use the cassette when it suits them and also re-use it.

At the newly founded Athabasca University (Cochram & Meech 1980, Harris 1980) the tutor's function is seen as a personal link between students and the university, "helping with academic questions, marking assignments, guiding the student through the university's red tape, and preventing into isolation" (ibid. p. 9). As yet there is no official evaluation (statistical), but within the university, the opi-

nion is that tutors do their job well. On the other hand, it has emerged that tutors working at the study centres feel isolated from the university. This can be related to Ginzburg's (1979) statement that "the academic staff is the heart of any university" (ibid. p. 6) and that the demands on the academic staff teaching distance courses, are greater that those made by traditional teaching. One must remember that the academic and didactic qualities of the courses are more important than their number.

This discussion has shown that the written word has moved a few steps up the scale (Ghatala 1975, Harris 1975, Perry 1975, Sharma 1975, Peters 1977, 1979b, Erdos 1978, Ochoa 1979), and that the written word is, when all comes to all, the foundation of all instruction. An interesting view on individualization and differentiation in distance education was put forward in an article entitled "Media didactics (educational technology): More failure than success?" by Dichanz (1979) who works at Fernuniversität in Western Germany. Dichanz points out that research on media has neglected to answer a crucial question, namely: "How far has using media actually influenced practical teaching-learning processes with respect to individualization, differentiation and objectification?" (ibid. p. 11). The analysis made by Dichanz with the help of research and other experiences leads him to draw the conclusion that many research workers in the field of distance education will not admit that: "Individualization and differentiation of the study by media have not been achieved in most cases!" (ibid, p. 15). For our part, the most important point of Dichanz' argument, is that he underlines that the learner himself has been lost in the jungle of teaching-learning organizations. Dichanz firmly dismisses the media system, if education is to be individualized and differentiated.

Naturally media can be useful to the teacher in his work, but no great demands can be placed on them and one must be aware of this when planning an educational system. According to Dichanz it is media that carry the existing, centrally organized learning systems: "So long as the use of media is mainly centrally planned and controlled—as is throughout the case today, due to central production, distribution, evaluation and financing—an essential educational potential of media with respect to enlarging the individual learning environments, differentiating and individualizing of organizational learning processes, remains unused. Including considerations relating to educational technology in the educational policy of West Germany might, as things are, involve the danger that here too a 'Diagnosis of Failure' will have to be made" (ibid. p. 20).

We can now go over to Keegan's (1980a) description of the relation between learning material and learning in a distance education system (Fig. 15.2), which largely corresponds to Dichanz' conception of where the weaknesses in the system are to be found.

With this model, Keegan wants to emphasize that there is no guarantee that anything will happen once the learning material has been developed and forwarded to the student. Thus, the weakness in traditional correspondence

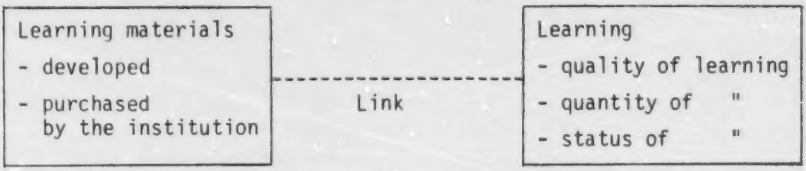

Figure 15.2. Relationship of learning materials to learning in a distance educational system. Source: Keegan 1980a, Figure 1, p 19.

teaching is the link between the learning materials and learning, a fact confirmed by other literature. Problems of this nature are naturally especially acute for courses at university level, where the aims are high.

In the current literature a number of methods have been suggested to strengthen the contact between the distance organization—teacher and student, in order to achieve quantitatively and qualitatively better study results. There are however, relatively few investigations about what the students think of different methods used in distance education. We shall mention one evaluation carried out at Centre de Télé-Enseignement universitaire (CTEU). Here 'tele' stands for distance and not for television. In this evaluation, students were asked to rate different aids from 1 to 5, where 5 denoted the maximum value. Written material and sessions of controlled work at the university were given the highest points, whereas TV and radio programmes received low values. Figure 15.3 shows the results regarding the proportion of already used media in relation to the wishes of the students. Seven hundred and thirty-five students were investigated. For us, the results are interesting as they support our own. Lefrance (1979) poses the following question on the basis of these results: "Can we come to the conclusion that the students that request sound documents, one-day seminars, radio and TV programmes do so only as a compensation for the lack of something better, because they cannot have the advantages of the traditional education of their dreams?" (ibid. p. 10). Lefrance does not think that this conclusion is entirely correct and says finally: "In fact we can affirm that students want a more harmonious equilibrium between the pedagogical components without any predominance of any particular one (ibid. p. 11, see also Daniel & Marquis 1979).

O'Donell and Daniel (1979) point out that in distance education, we must remember that "further success depends on promoting the development of students' ability to plan their lives, careers and education, set realistic goals and study effectively" (ibid. p. 1). It is wrong to believe that all adult students can do this. The authors suggest individual study plans based on the student's own career, educational and personal characteristics.

Hawkridge (1978) writes that research is changing character at the Open University. Previously the objects of research were tutors and counsellors, but now the aim is to discover "ways in which students learn in the Open University

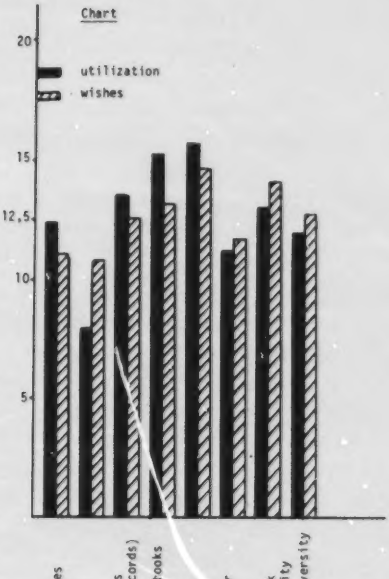

Figure 15.3. Comparison between the effective utilization of pedagogical components and students wishes. Source: Lefrance 1979, p 9.

and how the tuition and counselling system can help them" (ibid. p. 32, see also Marton 1979).

It is quite clear that distance education is moving away from advanced and costly technical aids, which at the beginning of the 1970's many thought would increase the effectivity of teaching. Interest tends more and more to rest on the students' chances of succeeding with their studies and on the interaction between student and teacher. In this connection, our evaluation of distance education and the Swedish universities is a great asset, especially as it tried to give a comprehensive picture. The broad spectrum covered by the evaluation and the follow-up investigation several yeras later, gives valuable information for the planning and implementing of distance education. A systematic network of information has emerged from our evaluation and other studies together with this information all point in the same direction, namely that the weak link in distance education lies in the feedback aspect. The conclusion we can draw from this, is that however good the teaching material may be, some students are bound to fail in their studies unless we can also guarantee personal contact between the distance organization and the student, and that this contact gives students security both in their work and socially.

The feedback problem has also been much discussed at the Open University, but it is difficult to make a thorough-going comparison with the Swedish system on account of the large structural differences. We are quite clear over the fact that the Swedish distance model would be impossible to establish in England in account of the existing opposition against open admission from the traditional universities (McIntosh 1975).

However it is obvious that the decentralized model used in Sweden and Australia has certain advantages which should not be overlooked. The contact–feedback–between student and teacher is simple and uncomplicated. This can be seen from the point of view of both teacher and student. The student has often one teacher during the entire period of the course, whom he or she can contact by telephone or during the meetings at the university regarding all types of problems. This is a source of security for the student. For the teacher, who has planned the course and developed special learning materials, contact with the students menas that he or she can get direct information about how the course is functioning. In this way, adjustments and changes can be continually made to improve education. Smith (1978) who works with distance education at the University of New England in Australia says "... we believe strongly that there should be more to a university degree than satisfying examiners' requirements. Elusive though the true university experience may be to define, there is no doubt in the minds of our staff and students that without some interactions on a face-to-face basis, off-campus education is the poorer. Both teacher and learner need to feel commitment to their respective tasks to do them best. Such commitment is difficult to engender without opportunities for staff and students to meet on a regular basis" (ibid. p. 79). When the Swedish model was launched, Holmberg (1974) among others, feared that it would mean a lowering of pedagogical standard. "Consistently decentralized correspondence education also risks a lowering of the pedagogical standards. This is related, among other things, to the fact that the teaching aid situation at the 19 independent institutes of higher education will probably be less uniform than at the present time. Course material, specific for correspondence education (student study guides, tasks for submission etc.) would be produced in essentially small editions, resulting in higher costs and perhaps even poorer quality.

All production of teaching aids demands professional editing, illustration and technical production. To spread this work among many different instances, as well as negotiations about the right to use pictures and text material from e.g. foreign sources, does not seem rational. University departments are hardly the right administrative bodies for the technically specialized job of producing self-instructional study material" (ibid. p. 3).

Our evaluation has shown that such fears were and are completely unfounded. On the contrary decentralized model has implied a pedagogical revival for many of the participating departments. Holmberg has probably forgotten that the decentralized model used in Sweden uses the same literature as the regular

courses. Another important point in this connection is that students have the possibility to choose different educational forms at the university at different points in time, and indeed, they do so. This makes it even more important that our distance courses are identical, regarding content and pass requirements, with the courses taken by full-time regular students (White 1975, McIntosh & Rigg 1979, Pritchard 1980). We can also name that the number of courses offered at the university has increased from ten or so to almost 200 during the past 8 years. The decentralized model provides a framework within which there are excellent possibilities of individualizing and differentiating education.

Appendix 1

QUESTIONNAIRE 1

1 Surname First name
2 Born
year month day ident.no
3 Which subject are you studying?
4 Marital status
( ) unmarried
( ) married or cohabiting
( ) divorced, widow, widower
5 Number of children to look after
( ) no children
( ) one child
( ) two children
( ) three or more children
6 Education
( ) primary school
( ) comprehensive school
( ) vocational school
( ) people's college
( ) lower secondary school
( ) technical school
( ) secondary school (incl. commercial or technical college) at town exam. year
( ) teacher training type exam. year
( ) university degree degree exam. year
( ) other education, namely
( ) other education (e.g. evening classes or correspondence courses) namely:
7 Have you previously studied at a university or university branch?
( ) Yes – Subject Year Number of points
Subject Year Number of points
Subject Year Number of points
Subject Year Number of points
( ) No
8 How do you finance your studies?
( ) study grant
( ) mainly through the family income
( ) other means, namely
App. size or family income (income before tax)
Own income

9 Father's education, mother's education and education of husband/wife (even applies to those who are cohabiting without being married).

Father	Mother	Husband/wife	
( )	( )	( )	primary school
( )	( )	( )	comprehensive school
( )	( )	( )	vocational school
( )	( )	( )	people's school
( )	( )	( )	lower secondary school
( )	( )	( )	technical school
( )	( )	( )	secondary school (incl. commercial and technical college)
( )	( )	( )	teacher training
( )	( )	( )	university or college
( )	( )	( )	other education, namely

10 Father's profession, mother's profession and husband/wife's profession (during active professional life).
Father
Mother
Husband/wife

11 What is the attitude of your parents and husband/wife to your present university studies?

Parents	Husband/wife	
( )	( )	positive
( )	( )	indifferent
( )	( )	negative
( )	( )	do not know

12 What is your present work-situation?
( ) gainfully employed
( ) housewife/man
( ) military service
( ) unemployed
( ) other, which?

13 What jobs have you previously had (lasting at least a year)?
Thos who have answered "gainfully employed" to question 12 should answer questions 14–21. Others proceed to question 22.

14 Specify your profession! (e.g. engineer – electronics – teacher – grades).

15 How long have you had your present occupation?
( ) number of years

16 What is your present form of employment?
( ) permanent post
( ) temporary post
( ) practical training
( ) other, namely:

17 What are your working hours?
( ) full-time – fixed working hours

( ) full-time – flexible working hours
( ) part-time – fixed working hours
( ) part-time – fleixible working hours
( ) other alternative, namely:

18 Are you satisfied with your present occupation?
( ) very satisfied
( ) fairly satisfied
( ) neither satisfied nor dissatisfied
( ) rather dissatisfied
( ) very dissatisfied

If you have expressed dissatisfaction, state your reasons briefly

19 Have you acquired the knowledge needed in your present occupation?
( ) long training prior to employment (e.g. secondary school or university training)
( ) long full-time in-service training (e.g. in-company training etc.)
( ) training parallel to work (training after working hours)
( ) mainly through practical experience (training on the job)
( ) solely through practical experience

20 Does your employer know about your present studies?
( ) yes
( ) no

If yes, what is his/her attitude to your studies?
( ) positive
( ) indifferent
( ) negative
( ) do not know

21 Do you have or will you obtain leave of absence for your present studies?
( ) yes
( ) no
( ) do not know

If yes, what are the conditions of your leave of absence?
( ) leave of absence with pay
( ) leave of absence without pay
( ) vacation
( ) other, how

THE FOLLOWING QUESTIONS SHOULD BE ANSWERED BY EVERONE

22 What is your reason for studying? If you have several reasons, mark *the most important with two crosses* and the others with one cross.
( ) to improve general education
( ) waiting for or lack of other occupation

( ) supplementary studies (in order to be eligible for a restricted university course)
( ) professional training (for those who have no prior training)
( ) to advance in present professional area
( ) to be able to change to a new occupation
( ) to be able to do present job better
( ) to stand a better chance on the labour market
( ) other motive(s), namely:

23 Was it difficult for you to decide to enroll for this particular course of studies?
( ) yes
( ) no
If yes, briefly state why.

24 How well do you think you will succeed with your present studies?
( ) very well
( ) quite well
( ) feel somewhat uncertain
( ) feel very uncertain
( ) do not know
Motivate your answer briefly:

25 On an average, how many hours a week do you intend to devote to studies?
( ) less than 5 hours
( ) 6–10 hours
( ) 11–15 hours
( ) 16–20 hours
( ) 21–25 hours
( ) more than 26 hours

26 Do you intend to study single subjects or for a full degree?
( ) single subject(s)
( ) maybe a full degree
( ) full degree
( ) do not know

27 Would you have pursued some other form of *university studies* if distance education had not started?
( ) yes, regular university studies, in
( ) yes, decentralized university studies, at
( ) yes, extramural studies or at an educational association.
Which and where?
( ) yes, in another way, namely
( ) no

28 Would you have pursued studies other than university studies if distance education had not started?
( ) yes, correspondence studies
( ) yes, municipal adult education
( ) yes, other studies, namely
( ) no

29 Which subject would have been your first choice if the variety of subjects offered by distance education had been larger?

( ) same as now
( ) other subject, namely:

30 a) How did you first get information about the course?

( ) printed matter distributed to the household
( ) poster/advertisement
( ) other way, namely
( ) newspaper articles

30 b) What is your opinion of the information received about distance education before the start of the course?

Folder	Telephone information	Advertisements
( ) very good	( ) very good	( ) very good
( ) good	( ) good	( ) good
( ) neither good nor poor	( ) neither good nor poor	( ) neither good nor poor
( ) poor	( ) poor	( ) poor
( ) very poor	( ) very poor	( ) very poor
( ) have not seen it	( ) have had no telephone contact	( ) have seen none

If you experienced the information as unsatisfactory, please try to state what you thought was lacking.

31 Which organization of the course would have suited you best?

( ) 3 long meetings (1 week, 2 weeks, 1 week)
( ) 7 short meetings (weekend)
( ) 1 long and a few short meetings
( ) 2 long and a couple of short meetings
( ) another organization, namely

MANY THANKS FOR YOUR COOPERATION

Appendix 2

QUESTIONNAIRE 2

1 Surname First name

2 What subject are you studying?

3 Which university gives the distance education?

( ) Umeå ( ) Gothenburgh
( ) Uppsala ( ) Växjö
( ) Linköping ( ) Lund

4 Have you participated in distance education before?

( ) yes
( ) no

If yes, which subject University

5 Have you definitely discontinued distance studies?

( ) yes
( ) no

If yes, briefly state reason

(If you have definitely discontinued distance studies, you need not fill in the remainder of the questionnaire)

6 Can you recall any period or periods during the past year when you were prevented from studying as planned for some special reason?

( ) yes
( ) no, there were no such periods
( ) no, it is difficult to judge

If yes, try to specify reason and time (e.g. studies in other subject given priority, illness, over-time, travels, tired of studying etc)

Time (try to give dates) | Reason(s)

–
–
–

7 Do you plan to complete your distance studies during the present term?

( ) have already done so
( ) yes
( ) doubtful
( ) no

If no, when do you count on doing so?

( ) during the summer
( ) during the autumn
( ) later
( ) do not know

8 Have you participated in any other form of studies parallel to distance studies? (e.g decentralized university studies, municipal adult education, study circle)

( ) no, not at all
( ) yes, to some extent
( ) yes, all the time

If yes, specify subject, organizer and level (e.g. Swedish-municipal adult education – secondary school grade)

Subject (course)	Organizer	Level

9 Have you participated in any form of academic studies before?

( ) yes
( ) no

If yes, try to specify the advantages and disadvantages of distance education compared with the other form(s) of study you have experienced.

Study form	Advantages with distance	Disadvantages with distance
a) regular full-time university studies in		
b) regular part-time university studies in		
c) decentralized university studies in		
d) university circle organized by educational association in		
e) other		

10 Are you satisfied with distance education as a study form?

( ) very satisfied
( ) fairly satisfied
( ) neither satisfied nor dissatisfied
( ) rather dissatisfied
( ) very dissatisfied

If you are dissatisfied will you briefly state your reasons:

11 University courses usually start either in Aug/Sept or in January. Would you prefer another time for the start of part-time studies? (20 points/2 terms) When would it suit you best to start?

( ) August
( ) October
( ) January
( ) March
( ) another time, which

12 Would you like distance studies to continue during the summer months?
( ) yes
( ) doubtful
( ) no

13 How many hours a week have you, on an average, devoted to studies?
( ) less than 5 hours
( ) 6–10 hours
( ) 11–15 hours
( ) 16–20 hours
( ) 21–25 hours
( ) 26 – hours

14 Have you had anyone with whom to discuss study problems?
( ) yes, to a sufficient extent
( ) yes, but not to a sufficient extent
( ) no, but would have liked
( ) no, but have not missed it

15 Have you worked together with any other students on the course?
( ) yes, to a satisfactory extent
( ) yes, but not sufficiently
( ) no, but would have liked to
( ) no, but did not miss doing so

16 How many times have you called your teacher(s) to discuss a problem?
( ) have never called
( ) once
( ) 2–5 times
( ) 6–10 times
( ) more than 10 times

Comments:

17 If you have never called or only called on the odd occasion, please state your reasons.
( ) have not needed to
( ) have not wanted to disturb the teacher
( ) problems were difficult to discuss on the telephone
( ) have not been able to contact anyone when the problem was acute
( ) other reason, which

18 If you have called, have you received the necessary help?
( ) yes, definitely
( ) yes, on the whole
( ) doubtful
( ) no, not really
( ) no, definitely not

If you have *not* received the necessary help, try to briefly describe why not.

19 Have the teachers at any point during the course called you to "see how things were going"?

( ) yes, on the odd occasion
( ) yes, several times
( ) no, never

If yes, have these telephone calls been of help?

( ) yes, very much so
( ) yes, to some extent
( ) doubtful
( ) no

If no, would you have appreciated a call from the teacher?

( ) yes
( ) doubtful
( ) no

Comments:

20 Which of the following "aids" have been used in your distance course? How should they be used?

	Have been used			*Should be used*			
	often	some-times	never	more	as now	less	not at all
Personal letters	( )	( )	( )	( )	( )	( )	( )
Study letters	( )	( )	( )	( )	( )	( )	( )
Tape recorder	( )	( )	( )	( )	( )	( )	( )
Telephone	( )	( )	( )	( )	( )	( )	( )
Written study guides	( )	( )	( )	( )	( )	( )	( )
Written study guides to text books	( )	( )	( )	( )	( )	( )	( )
Assignments to be sent in	( )	( )	( )	( )	( )	( )	( )
Self-check assignments	( )	( )	( )	( )	( )	( )	( )
Conference telephone	( )	( )	( )	( )	( )	( )	( )
Telecopier	( )	( )	( )	( )	( )	( )	( )
Other	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )

21 How many meetings has your subject had during the academic year 1974–75? Specify the number of days on each occasion, how often you participated and if the time has been satisfactory.

Meeting Number	Number of days	*I participated*			*The time for the meeting was*		
		Not at all	partly	all the time	too short	just right	too long
1		( )	( )	( )	( )	( )	( )
2		( )	( )	( )	( )	( )	( )
3		( )	( )	( )	( )	( )	( )
4		( )	( )	( )	( )	( )	( )
5		( )	( )	( )	( )	( )	( )

6	( )	( )	( )	( )	( )	( )
7	( )	( )	( )	( )	( )	( )
8	( )	( )	( )	( )	( )	( )

22 Have the meetings been a valuable help for your studies?

( ) yes
( ) doubtful
( ) no

Comments

23 Do you consider that the teachers in general have succeeded in the following tasks during meetings?

	always	often	some-times	seldom	never	do not know
Gave well structured lessons	( )	( )	( )	( )	( )	( )
Lessons were well prepared	( )	( )	( )	( )	( )	( )
Gave explanations on the students' level	( )	( )	( )	( )	( )	( )
Could interest students in subject	( )	( )	( )	( )	( )	( )
Could relate theory to practice	( )	( )	( )	( )	( )	( )
Gave examples related to reality	( )	( )	( )	( )	( )	( )
Kept to the subject	( )	( )	( )	( )	( )	( )
Established good contact with students	( )	( )	( )	( )	( )	( )
Could stimulate active participation in discussions	( )	( )	( )	( )	( )	( )
Gave help in preparing for examinations	( )	( )	( )	( )	( )	( )
Taught study technique	( )	( )	( )	( )	( )	( )
Gave students a chance to ask questions	( )	( )	( )	( )	( )	( )
Gave information about current research	( )	( )	( )	( )	( )	( )

24 What in your opinion, has been especially satisfactory as regards meetings (practical details may also be mentioned).

25 Where did you live during meeting periods?

( ) student room
( ) hotel
( ) with friends
( ) commuted between home and location of course
( ) other

26 Do you think that the university should arrange accommodation?

( ) yes
( ) doubtful
( ) no

27 Has the course literature been difficult to obtain?

( ) yes
( ) sometimes
( ) no

If yes, in what way

28 Try to estimate how much the distance course has cost you for

room and board during meetings	cr.
journeys to and from meetings	cr.
course literature	cr.
registration and student union fees	cr.
loss of income	cr.
other (e.g. baby-sitters)	cr.

29 Which examination form do you prefer?

( ) written
( ) oral, individual
( ) oral, group
( ) term paper/essay
( ) discussions in seminar form
( ) laboratory work
( ) no examinations at all
( ) do not know
( ) other, which

30 What type of examination have you had in the different parts of your course this year? Specify name or code of course, type of examination and your opinion of it/them.

	Name (code)	Examination form	good	neither/ nor	bad
Part 1			( )	( )	( )
2			( )	( )	( )
3			( )	( )	( )
4			( )	( )	( )
5			( )	( )	( )
6			( )	( )	( )
7			( )	( )	( )
8			( )	( )	( )

31 Where do you think the examination should take place?

( ) during meetings at the university
( ) in home town
( ) in a central town
( ) at the university, although not in connection with meetings
( ) do not know
( ) other

32 What was your reason for starting to study? If you had more than one reason, mark the most important with two crosses, and the other with one cross.

( ) to improve general knowledge

( ) no other occupation available/waiting for another occupation
( ) supplementary studies in order to be eligible for a course with restricted admission
( ) professional training (for those without earlier professional training)
( ) to advance in present professional area
( ) to be able to change jobs
( ) to be able to do present job better
( ) to have a better chance on the labour-market
( ) other motive(s) namely

33 Has your reason for studying changed during the course?
( ) yes
( ) no
( ) do not know

If yes, in what way?

34 Do you wish to continue studies at university level directly after this course?
( ) yes
( ) yes, but only if I pass this course
( ) no, not now but perhaps later
( ) no, not at all
( ) do not know

If you are planning to continue studying, which subject do you intend to read?
Subject

35 What form would you choose if you continue academic studies?
( ) regular university studies at
( ) distance education
( ) decentralized university studies
( ) extra mural studies or educational association
( ) other form, namely

36 What place would you prefer for distance studies?
( ) full-time, 20 points/1 term
( ) part-time 20 points/2 terms
( ) other, namely

37 If you plan to continue studying, do you intend to take single subjects or a full degree.
( ) single subject(s)
( ) perhaps a full degree
( ) do not know
( ) do not intend to continue

38 Which of the following do you consider important if distance education is to function well for you?

	very important	important	doubtful	not necessary
Greater variety of 20 point courses	( )	( )	( )	( )
More 40 point courses	( )	( )	( )	( )
60 point courses	( )	( )	( )	( )
Short course (e.g. 6 points, 12 points etc)	( )	( )	( )	( )
Extended study period (3 terms)	( )	( )	( )	( )
Shorter study period (one term)	( )	( )	( )	( )
Moore meetings	( )	( )	( )	( )
Fewer meetings	( )	( )	( )	( )
Study circles in home town	( )	( )	( )	( )
Home-visits from teachers	( )	( )	( )	( )
Intensive postal contact univ.-student	( )	( )	( )	( )
Intensive telephone contact univ. - students	( )	( )	( )	( )
Training in study technique at beginning of course	( )	( )	( )	( )
Study counselling (e.g. as regards course of studies and labour market)	( )	( )	( )	( )
Taped lectures	( )	( )	( )	( )
"Distance radio"	( )	( )	( )	( )
"Distance TV"	( )	( )	( )	( )
Own suggestions				

One of the aims of distance education is to enable participants to study parallel to full-time or part-time employment. To facilitate the planning of future distance courses, we would like you to answer a couple of questions concerning employment outside the home and the approximate extent of duties in the home.

39 Have you been gainfully employed and to what extent?

	full-time	3/4 time	part-time	less than part-time	not at all
( ) yes, to the same extent during the whole academic year	( )	( )	( )	( )	( )
( ) yes, but it has varied from time to time in the following ways:					
	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )

( ) no, not at all

Comments:

40 Have you been occupied at home with house work, looking after children, caring for the sick etc.?

( ) yes, to the same extent during the whole academic year, approximately hours a day

( ) yes, but it has varied from time to time in the following way:

– hours a day

– hours a day

– hours a day

( ) no, not at all

Comments:

41 What have distance studies meant to you?

MANY THANKS FOR YOUR COOPERATION!

Appendix 3

Questionnaire to teachers engaged in distance education

Name:
Subject:
University:

1 How many terms have you been involved in distance education at university level?
2 Describe your assignments in distance education (courses started before Autumn 74 and/or Spring 75). Try to estimate the number of hours for each assignments:
Assignments: Time:
3 What is your opinion of the information to the public about distance education?
As regards content:

As regards media:
4 Should information to the public be dealt with by the university administration or by each separate department?
( ) by the university administration
( ) by each faculty
( ) by each department
( ) by the university administration *and* by the departments
( ) by UKÄ, the university administration *and* the departments
( ) other, namely
Reason:
5 Are there any special target groups for whom distance education in your subject would be especially well-suited?
6 Which of the following 'aids' have been used in your distance course and how do you think they have functioned?

	Has been used		*Has functioned*					
	often	sometimes	never	very well	well	neither well nor poorly	poorly	very poor
Personal letters	( )	( )	( )	( )	( )	( )	( )	( )
Study letters	( )	( )	( )	( )	( )	( )	( )	( )
Tape recorder	( )	( )	( )	( )	( )	( )	( )	( )
Telephone	( )	( )	( )	( )	( )	( )	( )	( )
Written study guides	( )	( )	( )	( )	( )	( )	( )	( )
Written study guides to textbooks	( )	( )	( )	( )	( )	( )	( )	( )

Assignments to be sent in	( )	( )	( )	( )	( )	( )	( )	( )
Self-check assignments	( )	( )	( )	( )	( )	( )	( )	( )
Conference telephone	( )	( )	( )	( )	( )	( )	( )	( )
Telecopier	( )	( )	( )	( )	( )	( )	( )	( )
Other:	( )	( )	( )	( )	( )	( )	( )	( )

Comments:

7 Are there any other aids you would have liked to use in distance education if it had been possible?

( ) no

( ) yes, the following

Reason:

8 Do you think distance education would function better with help from e.g. Hermods, the educational associations, TRU etc.?

( ) no

( ) yes, the following

Reason:

9 How do you think the contact with the students has been in distance courses compared with regular university studies?

10 Is the literature used in the distance course the same as that used in regular courses?

( ) yes

( ) no

If not, what are the differences and the reasons for them?

11 What changes has distance education brought about in your work load compared to regular teaching?

12 Do you think distance tachers need special training?

( ) no

( ) yes

If yes, what do you think such training should include?

13 Do you think distance education has had any positive effects on regular teaching? If yes, what are they?

14 What do you consider to be the advantages and disadvantages of distance education?

Advantages:

Disadvantages:

15 As you perhaps know, the TRU-committee has made certain proposals concerning distance education. They have given the six following alternative models for organizing distance education. The first 3 alternatives imply a central organization and 4–5 imply a regional organization. Please rank these alternatives according to preference, giving your first choice number 1.

( ) 1. That a special higher education unit be established for distance education.

( ) 2. That an already existing university take charge of distance education.

( ) 3. That a special institute affiliated to a state-owned unit for the production

of teaching aids be responsible for distance education.

( ) 4. That the six universities be responsible for distance education within their own educational regions.

( ) 5. That each higher educational unit be responsible for distance education in its own area.

Reason:

THANK YOU FOR YOUR COOPERATION

Appendix 4

Questionnaire 3

Name:
Present address:
Telephone:

Distance course/subject Number of points
at

1 Have you taken the final examination for your distance course?
( ) no
( ) yes
( ) Autumn term 19
( ) Spring term 19

2 Before the present distance course, had you studied at any university?
( ) no
( ) Yes, namely Subject Number of points

3 What was your main occupation before you began distance studies and what do you do *now*?

Occupation	*Before*	*Now*
Employment outside the home		
– full-time	( )	( )
– part-time	( )	( )
Work in the home		
– full-time	( )	( )
– part-time	( )	( )
Studying		
– full-time	( )	( )
– part-time	( )	( )
Have looked/am looking for work outside the home	( )	( )

Comments:

4 If you answered "employment outside the home" in question 3 describe your work and work tasks *before* and *now*:

	Before	*Now*
Place:		
Place of work:		
Position:		
Work tasks:		

5 Have you studied at the university after the above distance course?

( ) no

( ) yes, the following study programme: Place:

Commenced term 19 and have taken so far points.

( ) yes, single courses (subjects) as follows:

Courses/Subjects	Number of points taken	Study form, e.g. evening classes, distance, full-studies etc.	Place of study

6 Have your participated in any other form of education (not university studies) after your distance course?

( ) no

( ) yes, state type of education

State extent (e.g. number of days or weeks) subject or course

( ) Educational association
( ) Municipal adult education
( ) People's college
( ) Correspondence course
( ) In-company training
( ) Trade union course
( ) Labour market training
( ) Other:

7 How great is your study interest compared with before the distance course?

( ) very much greater
( ) somewhat greater
( ) neither greater nor less
( ) somewhat less
( ) very much less

Comments:

8 Have any problems arisen as a result of the distance course?

	Not at all	To some extent	To a large extent
Financial			
Family			
At work			

Other problems:

Comments:

9 If a fried were to ask you whether he/she should apply for a distance course, what would you do?

( ) recommend him/her to apply
( ) neither advise against nor recommend
( ) advise against

Motivate your answer:

10 What has distance education meant to you in retrospect?

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ISBN 91–554–1228–9
ISSN 0347–1314

Distributor: Almqvist & Wiksell International, Stockholm, Sweden